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TRANSCRIPT OF RECORD

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1929

No. 122

FEDERAL RADIO COMMISSION, PETITIONER

vs.

GENERAL ELECTRIC COMPANY AND PEOPLE OF THE STATE OF NEW YORK

ON WRIT OF CERTIORARI TO THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA

PETITION FOR CERTIORARI FILED JUNE 1, 1929
CERTIORARI GRANTED OCTOBER 14, 1929

(34253)

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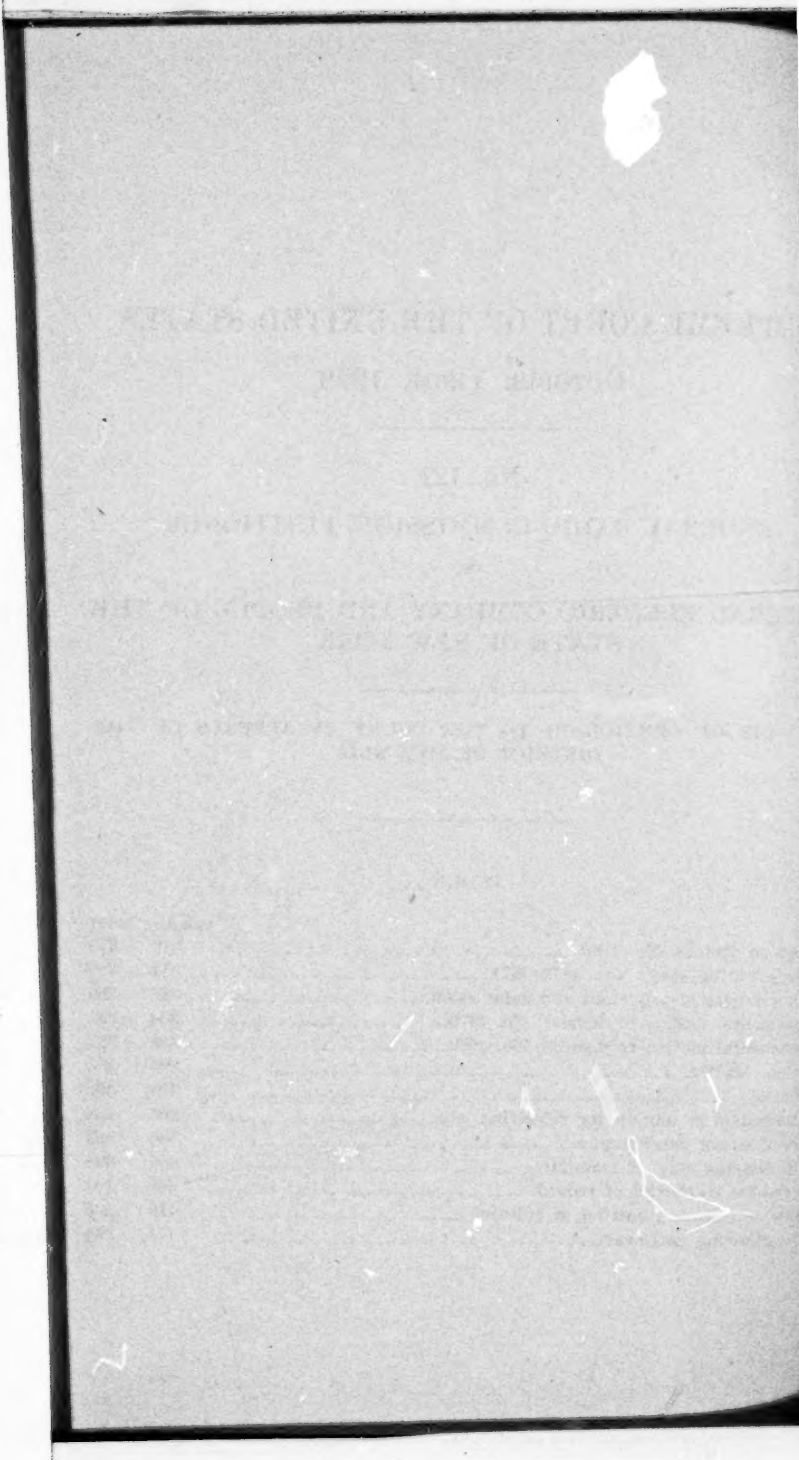

Court of Appeals of the District of Columbia

OCTOBER TERM, 1928

No. 4870.

GENERAL ELECTRIC COMPANY, APPELLANT,

vs.

FEDERAL RADIO COMMISSION.

AND

No. 4871.

THE PEOPLE OF THE STATE OF NEW YORK, APPELLANTS,

vs.

FEDERAL RADIO COMMISSION.

AND

No. 4880.

GENERAL ELECTRIC COMPANY, APPELLANT,

vs.

FEDERAL RADIO COMMISSION.

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Court of Appeals of the District of Columbia

No. 4870.

General Electric Co., Appellant,

vs.

Federal Radio Commission.

and

No. 4871.

The People of the State of New York, Appellants,

vs.

Federal Radio Commission.

and

No. 4880.

General Electric Co., Appellant,

vs.

Federal Radio Commission.

1-11 In the Court of Appeals, District of Columbia

Nos. 4870-4880.

General Electric Company, Operating Station W G Y, Appellant,

vs.

Federal Radio Commission, Appellee.

Designation and Stipulation of Record.

12 In the Court of Appeals of the District of Columbia.

No. 4870. Radio Commission No. —.

General Electric Company, Applicant-Appellant,

v.

Federal Radio Commission.

Notice of Appeal to the Court of Appeals of the District of Columbia and Reasons Therefor.

Now comes the General Electric Company, applicant-appellant in the above-entitled proceeding, and says that it is

aggrieved by the decision of the Federal Radio Commission rendered herein against it on October 17, 1928, effective October 17, 1928, and gives notice of its appeal therefrom to the Court of Appeals of the District of Columbia, and assigns in support thereof the reasons for appeal hereinafter set forth.

Reasons for Appeal

The reason for this appeal is because the Federal Radio Commission has threatened to deprive the General Electric Company of its property right to use broadcasting facilities of station WGY in full time operation on a frequency of 790 kilocycles, or any frequency substantially equivalent.

The Commission has decided that WGY shall cease to operate on November 11, 1928, at 3 A. M., Eastern Standard time, as a full time station on 790 kilocycle frequency or any equivalent frequency, thereby depriving a community of approximately 2,400,000 people of any satisfactory program radio service.

The Commission has failed to serve "public interest, convenience, or necessity" in refusing to authorize continuance of the public service heretofore rendered by WGY; has failed to afford the General Electric Company an opportunity to be heard under reasonable rules and regulations with respect to its applications for continuance of broadcasting service; and has otherwise failed to comply with the provisions of the Radio Act of February 23, 1927.

The facts and proceedings which caused this appeal appear from the following, to wit:

13 1. The General Electric Company is the owner and operator of the radio broadcasting station, known as WGY, and located in the City of Schenectady, State of New York, and has owned and operated this station since February 20, 1922. Since May 21, 1923, WGY has been regularly operating under licenses issued by the Department of Commerce, and by the Federal Radio Commission, which Commission was created by the Radio Act of 1927, approved February 23, 1927. Of more than 600 broadcast stations in the United States, only nine other stations have as long a service record as WGY. Its priority rights, based on long and excellent service, are very great.

WGY is one of the most important development stations in the world. Through its assistance, apparatus has been developed, which is now adopted by the leading broadcasting stations everywhere, and the Department of Commerce has recognized the technical achievements of WGY, by designating it as one of a special class of stations, known as Development Broadcasting Stations, of which there were only three. Among the major improvements developed are the following: higher powered transmitters, larger vacuum tubes, condenser microphones, accurate maintenance of assigned frequency, and short wave experimental broadcasting.

In the construction and operation of WGY, to develop the radio art, especially the broadcasting art, and to furnish to the public broadcasting of the highest quality, the General Electric Company has provided apparatus, equipment and instruments of the highest quality, and has invested more than one and a half million dollars. The General Electric Company has a very valuable property right, created by the broadcasting service originated and carried on by WGY since February 20, 1922.

2. Within 100 miles of WGY, there is a population of approximately 2,400,000, including residents in Albany, Troy, Amsterdam, Utica, Poughkeepsie, Hudson, Saratoga, Rome, Kingston and Glen Falls in New York State, Pittsfield and Adams in Massachusetts, Rockland in Vermont, and many towns, villages and farms in the States of New York, Massachusetts, Vermont and New Hampshire. There are many institutions within this area, devoted to the welfare of the afflicted and poor, such as Disabled Veterans' 14 Hospital at Tupper Lake, N. Y., Albany Hospital for Incurables, Home for Aged at Schenectady, N. Y., The Catskill, Adirondack and Lake George regions containing many hospitals, sanitariums, camps and convalescent homes, because of the characteristics of this region.

This community is dependent, and has been since 1922, upon WGY for its only reliable and regular broadcast service. Broadcasting stations in New York City, Boston, Springfield and Rochester do not deliver good program service to this community, because of their distance from this community, and also because of fading, static interference and local conditions. WGY is the only broadcasting

station now serving this community with reliable, high class service.

Good program service depends largely upon the distance between the listener and the broadcasting station, and the power of the broadcasting station. Reception is usually better at night than in daytime, in the broadcast band. For a high power station, of 50 kilowatt power, the service area within which listeners may receive programs without interference from electric storms and other electrical disturbances, extends from 60 to 100 miles in all directions from the broadcasting station. Stations at greater distance, or of lower power, may be and often are, received further away, but such reception is intermittent, unreliable and unsatisfactory with respect to program service.

The action of the Commission proposes to deprive WGY on November 11, 1928, of its right to continue to furnish its service to approximately 2,400,000 people, who cannot receive good program service elsewhere.

4. The Radio Act of February 23, 1927, created the Federal Radio Commission. Prior to said Act, and since May 21, 1923, WGY has been regularly operating on a 790 kilocycle frequency or channel, and has been furnishing broadcast service of the highest quality to listeners within its range, the neighboring communities in the States of New York, Massachusetts, Vermont and New Hampshire, receiving such service exclusively from WGY.

The Radio Act provides, Sec. 4, that the Commission "as public convenience, interest or necessity requires," shall classify radio stations, prescribe the nature of their services, assign bands of frequencies, powers and times of operation to the stations, determine the location of classes of stations or individual stations, etc. The Radio Act provides further, Sec. 9, as amended by Act of March 28, 1928:

"That the people of the zones established by section 2 of this Act, are entitled to equality of radio broadcasting service, both of transmission and of reception, * * *."

The Commission after its establishment set aside for broadcasting stations a band of frequencies extending from 550 kilocycles to 1,500 kilocycles.

WGY has continued to operate on its 790 kilocycle frequency under license of the Commission, said license expiring on November 11, 1928, at 3 A. M., Eastern Standard

time. This license was granted under date of November 1, 1927, copy being attached hereto as Exhibit A, and provided for full time operation on 790 kilocycle frequency. By letter of January 4, 1928, the Commission requested the General Electric Company to file application for extension, which application was filed under date of January 14, 1928, with letter of same date, copies of said letters and application being attached hereto as Exhibits B-1, 2 and 3.

Under date of August 30, 1928, by General Order No. 40, the Commission assigned the frequency of 790 kilocycles to the Fifth Radio Zone, comprising Western States,
16 and in accompanying statement declared that this frequency and 39 others were channels on which "Only one station will be permitted to operate at any time during night hours." By this Order, the frequency of 730 kilocycles was made a Fifth Zone frequency, "for full-time operation, that is to say, twenty-four hours daily and every allocation herein of a frequency to a particular zone is to be considered as carrying with it an assignment of full-time operation on that frequency to that zone." This Order and Statement are attached as Exhibit C-1.

Under date of September 11, 1928, the Commission addressed a circular letter to "All Persons Holding Licenses to Broadcast", attaching a list of broadcasting stations, including:

			Assignments.					
			Former.			New.		
"Station.	Location.	Owner.	Shared with.	Power.	Kc.	Shared with.	Power.	Kc.
WGY	S. Schenectady.	Gen. Elec. Co.	....	50,000	790	Limited	*50,000	790"

The asterisk refers to General Order No. 42, relating to power of transmitting stations.

An Addendum attached to this list stated:

"The following stations, included in the foregoing list, are to be classed as part-time stations:

Station.	Location.
WGY	Schenectady, New York.

The foregoing stations will not be permitted to operate during the evening hours simultaneously with other stations assigned to the same frequencies.

'Day' in list means daytime operation only."

This circular letter is attached as Exhibit D-1.

Under date of October 23, 1928, the Commission issued a revised list of broadcasting stations, attached Exhibit E, superseding the previous list, said list containing:

"790 kilocycles—*WGY Schenectady, New York General Electric Co., 50,000 ltd. time."

The asterisk refers to General Order No. 42, which relates to power of transmitting stations.

17 By General Order No. 48 of October 24, 1928, which refers to General Order No. 41 dated September 4, 1928, attached as Exhibits F, F-1, a "limited time" broadcasting station is permitted to operate up to the average time of sunset at the unrestricted station to the west of the limited station, or at other times at which the unrestricted station is temporarily not using the frequency, if such operation does not cause heterodyne interference. In the present case, the WGY "limited license" of October 17, 1928, provides for operation on 790 kilocycles, and station KGO at Oakland, California, has a full time, unlimited license on 790 kilocycles. The average time of sunset at Oakland corresponds to 8.01 P. M., Eastern Standard time, in November. Under present conditions of operation, there will be heterodyne interference between KGO and WGY if they operate simultaneously. The orders of the Commission require WGY to suspend operations at 8.01 P. M., or earlier, Eastern Standard time, during the month of November.

4. On October 4, 1928, the General Electric Company made application for a modification of the allocation of the Commission, copy being attached hereto as Exhibit G. On October 23, 1928, the General Electric Company made application for renewal of its license of November 1st, 1927, copies of such application and accompanying papers being attached hereto as Exhibits H-1. On October 29, 1928, the General Electric Company received a "limited license" from the Commission, dated October 17, 1928, attached as Exhibit I. On November 3, 1928, the General Electric Company filed an application for a modification of the "limited license", with letter of same date, copies thereof being attached hereto as Exhibits J-1.

The letter of November 3, 1928, respectfully requested a hearing by the Commission on the application of same date on either Wednesday or Thursday, November 7th or 8th, 1928. No reply has been received to this request.

WGY must discontinue its present broadcasting service on November 11, 1928, at 8.01 P. M., Eastern Standard time, under the existing orders of the Commission, or be subject to such penalties for violations of the Radio Act as it may lawfully provide, which, if lawful, may include "a
18 fine of not more than $500 for each and every offense," Sec. 32.

5. The Commission has discriminated unfairly against WGY and the community of approximately 2,400,000 people which it serves. The orders of the Commission have allocated four full-time frequencies, or channels to New York State. New York City broadcasting stations have been given three of these frequencies, namely, WJZ, WEAF, and WABC, the other frequency being given to station WHAM at Rochester, New York. The Commission has also licensed to operate in New York City approximately 30 other broadcasting stations, on regional and local channels so that the communities in and near New York City have been provided with a wide and excellent variety of program service.

None of the broadcasting stations allotted frequencies by the Commission, unlimited, regional or local, has ever furnished, or can now furnish, a community of approximately 2,400,000 people near Schenectady with satisfactory program service

6. The Commission has failed to provide a sufficient number of unlimited frequencies or channels. It has allocated forty such frequencies throughout the United States, eight frequencies for each of the five zones. At least fifty such frequencies should have been provided, as was recommended to the Commission by a conference of representative radio engineers, including Dr. J. H. Dellinger of the Bureau of Standards, acting chairman, in a report released by the Commission under date of April 11, 1928, recommending fifty channels of frequencies for stations operating on 5,000 to 50,000 watts power, as "the minimum that should be provided."

The Commission disregarded the report of these engineers, and provided only forty such frequencies. The Radio Act does not limit the number of such frequencies to forty

frequencies, and the Commission could have lawfully provided fifty such frequencies.

Federal Radio Commissioner O. H. Caldwell stated on November 7th, 1928, according to the New York Times of November 8th, 1928, p. 31, that:

"Some of the commissioners felt that twenty-five cleared channels for the entire country would be sufficient,
19 but the engineers called into consultation strongly advised fifty cleared waves. I agree with the engineers' recommendation that fifty stations operating on exclusive channels without interference will greatly improve broadcasting service in the United States. If we can get fifty cleared waves we can clear up the WGY part-time arrangement and give that station an exclusive channel instead of ordering it to close at sunset on the Pacific coast when KGO at Oakland goes on the air."

Because of the reasons herein set forth and appearing from the attached Exhibits, the General Electric Company has appealed from the refusal of the Federal Radio Commission to allow it to continue the exercise of its right to use broadcasting facilities of station WGY in full-time operation on a frequency of 790 kilocycles, or any frequency substantially equivalent.

GENERAL ELECTRIC COMPANY,
By STEPHEN H. PHILBIN,
Attorney.

November 9, 1928.

20 *Verification.*

DISTRICT OF COLUMBIA, *ss:*

Stephen H. Philbin, being first duly sworn, deposes and says that he is the attorney of the applicant-appellant General Electric Company; that he has read the foregoing notice of appeal and reasons therefor; that the matters and things therein set forth on personal knowledge are true, and those therein stated on information and belief he verily believes to be true.

[Seal Marie McDonald, Notary Public, District of Columbia.]

MARIE McDONALD,
Notary Public, District of Columbia.

Notice to Federal Radio Commission.

The Federal Radio Commission will please take notice that the foregoing notice of appeal and reasons therefor will be filed forthwith in the Court of Appeals of the District of Columbia, pursuant to the provisions of the Radio Act of February 23, 1927; and, further, that it will forthwith move the said Court of Appeals for an order requiring the said Federal Radio Commission to allow it to continue to operate under its existing full-time radio broadcasting license, or an equivalent license, during the pendency of its appeal.

FRANK J. HOGAN,
WILLIAM H. DONOVAN,
JOHN W. GUIDER,
Attorneys for Applicant-Appellant,
General Electric Company.

Washington, D. C., November 9, 1928.

21 *Certificate.*

Personally appeared before me Marie McDonald, a Notary Public in and for the District of Columbia, Stephen H. Philburn, who being first duly sworn deposes and says that he is one of the attorneys for the General Electric Company, applicant-appellant herein, and that the foregoing is a true copy of the notice of appeal and reasons therefor to be filed forthwith in the Court of Appeals of the District of Columbia.

STEPHEN H. PHILBIN.

Subscribed and sworn to before me this 9th day of November, 1928.

[Seal Marie McDonald, Notary Public, District of Columbia.]

MARIE McDONALD,
Notary Public, District of Columbia.

Acknowledgement of Service.

Service of a certified copy of the foregoing notice of appeal and reasons therefor is acknowledged this 9th day of November, 1928.

FEDERAL RADIO COMMISSION,
By DONALD D. HUGHES.

22 [Endorsed:] No. 4870. Radio Commission No. —. General Electric Company, Applicant-Appellant, v. Federal Radio Commission. Notice of appeal to the Court of Appeals of the District of Columbia and reasons therefor. (The clerk will please file.) Law offices of Frank J. Hogan, Colorado Building, Washington, D. C. Court of Appeals, District of Columbia. Filed Nov. 9, 1928. Henry W. Hodges, Clerk.

22a In the Court of Appeals of the District of Columbia.

No. 4871. Radio Commission No. —.

THE PEOPLE OF THE STATE OF NEW YORK, Appellants,

vs.

FEDERAL RADIO COMMISSION.

(In the Matter of the Application of General Electric Company for Modification of License Issued to Station WGY, Schenectady, N. Y.)

Notice of Appeal to the Court of Appeals of the District of Columbia and Reasons Therefor.

Now come the People of the State of New York whose interests are affected by a determination of the Federal Radio Commission in the above entitled matter, and state that they are seriously aggrieved by said decision or determination rendered, or license issued, by said Commission on or about the 17th day of October, 1928, effective November 11, 1928, and give notice of their appeal therefrom to the Court of Appeals of the District of Columbia, assigning in support thereof the following:

Reasons for Appeal.

1. Said order, decision or determination, or license issued, by the Federal Radio Commission, above referred to is not such an order or determination as public convenience, interest or necessity requires.

2. Said order, decision or determination, or license
22b issued, by the Federal Radio Commission above referred to does not carry into effect the equality of

radio broadcasting service which the People of the State of New York are entitled to under the provisions of the Federal Radio Act.

ALBERT OTTINGER,
Attorney General for the State of New York, Capitol, Albany, N. Y.

C. T. DAWES,
Solicitor General.

STATE OF NEW YORK,
County of Albany, ss:

C. T. Dawes, being duly sworn, says that he is one of the people of the State of New York and that he is Solicitor General in the Department of Law of the State of New York, and has charge of the above entitled matter; that he has read the foregoing notice of appeal and knows the contents thereof; and that the same is true to his own knowledge except as to matters therein stated to be alleged on information and belief, and that as to those matters he believes it to be true. The sources of deponent's information and the grounds of his belief as to all matters not therein stated upon his knowledge are as follows: Statements and reports of officers and employees of the General Electric Company and petitions, letters, statements and protests of public officers, bodies, institutions and citizens of the State of New York.

C. T. DAWES.

Sworn to before me this 8th day of November, 1928.
PATRICK H. CLUNE,
Notary Public, Albany Co., N. Y.

22c To the Federal Radio Commission,
Washington, D. C.:

Please take notice that the foregoing notice of appeal and the reasons for appeal will be filed forthwith in the Court of Appeals of the District of Columbia, pursuant to the provisions of the Radio Act of February 23, 1927.

Dated November 8, 1928.

ALBERT OTTINGER,
Attorney-General, Attorney for the People of the State of New York, Capitol, Albany, N. Y.

STATE OF NEW YORK,
County of Albany, ss:

Personally before me, Patrick H. Clune, a Notary Public in and for the County of Albany and State of New York, came C. T. Dawes on the 8th day of November, 1928, who first being sworn on oath, deposes and says that he is one of the attorneys for the appellants herein, and that the foregoing is a true copy of a notice of appeal and reasons for appeal to be filed forthwith in the Court of Appeals of the District of Columbia.

PATRICK H. CLUNE,
Notary Public, Albany Co., N. Y.

STATE OF NEW YORK,
County of Albany, Clerk's Office, ss:

I, George R. Happ, Clerk of the said County, and also Clerk of the Supreme and County Courts, being Courts of Record held therein, do hereby certify that Patrick H. Clune, whose name is subscribed to the Certificate of proof or acknowledgment of the annexed Instrument in writing, and endorsed thereon, was, at the time of taking such proof or acknowledgement, a Notary Public, in and for the County aforesaid, dwelling in said County and duly authorized to take same; and that I am well acquainted with the handwriting of the said Notary and verily believe that the signature to the said Certificate of proof or acknowledgment is genuine; and that the said Instrument is executed and acknowledged according to the laws of the State of New York.

I do further certify that the seal of Notary by whom the foregoing acknowledgment was taken is not required by law to be filed in this office.

In testimony whereof, I have hereunto set my hand and affixed my official seal, as County Clerk of said Courts, this 8 day of Nov., 1928.

[Seal County of Albany, July 1841.]

GEORGE R. HAPP, Clerk.

Acknowledgment of Service.

Service of a certified copy of the foregoing notice of appeal and reasons therefor is acknowledged this 9th day of November, 1928.

FEDERAL RADIO COMMISSION,
By DONALD D. HUGHES.

22*d* [Endorsed:] In the Court of Appeals of the District of Columbia. No. 4871. The People of the State of New York, Appellants, vs. Federal Radio Commission. (In the Matter of the Application of General Electric Company for modification of license issued to Station WGY, Schenectady, N. Y.) (Original.) Notice of Appeal to the Court of Appeals of the District of Columbia and reasons therefor. Albert Ottinger, Attorney-General, Attorney for the People of the State of New York, Capitol, Albany, N. Y. Court of Appeals, District of Columbia. Filed Nov. 9, 1928. Henry W. Hodges, Clerk.

On November 30, 1928, the General Electric Company filed in the Court of Appeals in the District of Columbia a second notice of appeal and reasons therefor, this being Appeal No. 4880.

This notice of appeal is as follows:

23 Court of Appeals, District of Columbia. Filed Nov. 30, 1928. Henry W. Hodges, Clerk.

In the Court of Appeals, District of Columbia.

No. 4880. Radio Commission No. —.

GENERAL ELECTRIC COMPANY, Applicant-Appellant,

v.

FEDERAL RADIO COMMISSION.

Notice of Appeal to the Court of Appeals of the District of Columbia and Reasons Therefor.

General Electric Company, by Stephen H. Philbin, John W. Guider, Frank J. Hogan, Attorneys.

24 In the Court of Appeals, District of Columbia.

No. —.

GENERAL ELECTRIC COMPANY, Applicant-Appellant,

v.

FEDERAL RADIO COMMISSION.

Notice of Appeal to the Court of Appeals of the District of Columbia and Reasons Therefor.

Now, this 30th day of November, 1928, comes the General Electric Company, applicant-appellant in the above entitled proceeding, and says that it is aggrieved by the decision of the Federal Radio Commission rendered on its application for renewal of Radio Broadcasting Station License, for Station WGY, located near South Schenectady, County of Schenectady, State of New York, bearing date October 17, 1928, of which notice was sent this Applicant-appellant under date of October 27, 1928, and by it received October 29, 1928, which said decision became effective November 11, 1928, and constituted a refusal of said General Electric Company's application for renewal of existing station license theretofore issued to and at the time held by it; and the General Electric Company hereby gives notice of its appeal from the aforesaid decision to the Court of Appeals of the District of Columbia, and assigns in support thereof the reasons for appeal hereinafter set forth.

GENERAL ELECTRIC COMPANY,
FRANK J. HOGAN,
Its Attorney.

25 Reasons for Appeal.

The reason for this appeal is because the Federal Radio Commission has threatened to deprive the General Electric Company of its property right to use broadcasting facilities of station WGY in full time operation on a frequency of 790 kilocycles, or any frequency substantially equivalent.

The Commission decided that WGY should cease to operate on November 11, 1928, at 3 A. M., Eastern Standard time, as a full time station on 790 kilocycle frequency or

any equivalent frequency, thereby depriving a community of approximately 2,400,000 people of any satisfactory program radio service.

The Commission has failed to serve "public interest, convenience, or necessity" in refusing to authorize continuance of the public service heretofore rendered by WGY; has failed to afford the General Electric Company an opportunity to be heard under reasonable rules and regulations with respect to its applications for continuance of broadcasting service; and has otherwise failed to comply with the provisions of the Radio Act of February 23, 1927.

The facts and procedings which caused this appeal appear from the following, to wit:

1. The General Electric Company is the owner and operator of the radio broadcasting station, known as WGY, and located in the City of Schenectady, State of New York, and has owned and operated this station since February 20, 1922. Since May 21, 1923, WGY has been regularly operating under licenses issued by the Department of Commerce and by the Federal Radio Commission, which Commission was created by the Radio Act of 1927, approved February 23, 1927. Of more than 600 broadcast stations in the United States, only nine other stations have as long a service
26 record as WGY. Its priority rights, based on long and excellent service, are very great.

WGY is one of the most important development stations in the world. Through its assistance, apparatus has been developed, which is now adopted by the leading broadcasting stations everywhere, and the Department of Commerce has recognized the technical achievements of WGY, by designating it as one of a special class of stations, known as Development Broadcasting Stations, of which there were only three. Among the major improvements developed are the following: higher power transmitters, larger vacuum tubes, condenser microphones, accurate maintenance of assigned frequency, and short wave experimental broadcasting.

In the construction and operation of WGY, to develop the radio art, especially the broadcasting art, and to furnish to the public broadcasting of the highest quality, the General Electric Company has provided apparatus, equipment and instruments of the highest quality, and has invested more

than one and a half million dollars. The General Electric Company has a very valuable property right, created by the broadcasting service originated and carried on by WGY since February 20, 1922.

2. Within 100 miles of WGY, there is a population of approximately 2,400,000, including residents in Albany, Troy, Amsterdam, Utica, Poughkeepsie, Hudson, Saratoga, Rome, Kingston and Glen Falls in New York State, Pittsfield and Adams in Massachusetts, Rockland in Vermont, and many towns, villages and farms in the States of New York, Massachusetts, Vermont and New Hampshire. There are many institutions within this area, devoted to the welfare of the afflicted and poor, such as Disabled Vet-
27 erans' Hospital at Tupper Lake, N. Y., Albany Hospital for Incurables, Home for Aged at Schenectady, N. Y., the Catskill, Adirondack and Lake George regions containing many hospitals, sanitariums, camps and convalescent homes, because of the characteristics of this region.

3. This community is dependent, and has been since 1922, upon WGY for its only reliable and regular broadcast service. Broadcasting stations in New York City, Boston, Springfield and Rochester do not deliver good program service to this community, because of their distance from this community, and also because of fading, static interference and local conditions. WGY is the only broadcasting station now serving this community with reliable high class service.

Good program service depends largely upon the distance between the listener and the broadcasting station, and the power of the broadcasting station. Reception is usually better at night than in daytime, in the broadcast band. For a high power station, of 50 kilowatt power, the service area within which listeners may receive programs without interference from electric storms and other electrical disturbances, extends from 60 to 100 miles in all directions from the broadcasting station. Stations at greater distances, or of lower power, may be and often are, received further away, but such reception is intermittent, unreliable and unsatisfactory with respect to program service.

The action of the Commission proposed to deprive WGY on November 11, 1928, of its right to continue to furnish its

service to approximately 2,400,000 people, who cannot receive good program service elsewhere.

4. The Radio Act of February 23, 1927, created the Federal Radio Commission. Prior to said Act, and since
28 May 21, 1923, WGY has been regularly operating on a 790 kilocycle frequency or channel, and has been furnishing broadcast service of the highest quality to listeners within its range, the neighboring communities in the States of New York, Massachusetts, Vermont and New Hampshire, receiving such service exclusively from WGY.

The Radio Act provides, Sec. 4, that the Commission "as public convenience, interest or necessity requires," shall classify radio stations, prescribe the nature of their services, assign bands of frequencies, powers and times of operation to the stations, determine the location of classes of stations or individual stations, etc. The Radio Act provides further, Sec. 9, as amended by Act of March 28, 1928:

"That the people of the zones established by section 2 of this Act, are entitled to equality of radio broadcasting service, both of transmission and of reception, * * *."

The Commission after its establishment set aside for broadcasting stations a band of frequencies extending from 550 kilocycles to 1,500 kilocycles.

WGY has continued to operate on its 790 kilocycle frequency under license of the Commission, said license expiring on November 11, 1928, at 3 A. M., Eastern Standard time. This license was granted under date of November 1, 1927, and provided for full time operation on 790 kilocycle frequency.

Copy of said license of November 1, 1927, is attached to notice and reasons for appeal in the case of General Electric Company, applicant-appellant, v. Federal Radio Commission, No. 4870, filed in this Court November 9, 1928, as Exhibit A thereto; and is hereby made Exhibit A hereto and incorporated herein by reference as fully as if
29 physically attached hereto. All other exhibits hereinafter referred to are attached to the above mentioned notice and reasons for appeal, in case No. 4870 in this Court, filed, as aforesaid, November 9, 1928, and are identified in that case by the symbols herein used; all ex-

hibits referred to herein are incorporated herein by reference to the aforesaid earlier appeal as fully as if physically attached hereto. Copies of all of said Exhibits were esrved on and forwarded to The Federal Radio Commission on November 9th, 1928.

By letter of January 4, 1928, the Commission requested the General Electric Company to file application for extension, which application was filed under date of January 14, 1928, with letter of same date, copies of said letters and application are Exhibits B-1, 2 and 3 hereto.

Under date of August 30, 1928, by General Order No. 40, the Commission assigned the frequency of 790 kilocycles to the Fifth Radio Zone, comprising Western States, and in accompanying statement declared that this frequency and 39 others were channels on which "only one station will be permitted to operate at any time during night hours." By this Order, the frequency of 790 kilocycles was made a Fifth Zone frequency, "for full-time operation, that is to say, twenty-four hours daily and every allocation herein of a frequency to a particular zone is to be considered as carrying with it an assignment of full-time operation on that frequency to that zone." This Order and Statement are Exhibit C-1 hereto.

Under date of September 11, 1928, the Commission addressed a circular letter to "All Persons Holding Licenses to Broadcast," attaching a list of broadcasting stations, including:

30 "Assignments

Station	Former Location	Owner
WGY	S. Schenectady	Gen. Elec. Co.
Shared with	Power	KC
	50,000	790
	New	
Shared with	Power	KC
Limited	*50,000	790."

The asterisk refers to General Order No. 42, which relates to power of transmitting stations.

An Addendum attached to this list stated:

"The following stations, included in the foregoing list, are to be classed as part-time stations:

Station	Location
WGY	Schenectady, New York.

The foregoing stations will not be permitted to operate during the evening hours simultaneously with other stations assigned to the same frequencies.
'Day' in list means daytime operation only."

This circular letter is Exhibit D-1 hereto.
Under date of October 23, 1928, the Commission issued a revised list of broadcasting stations, Exhibit E hereto, superseding the previous list, said list containing:

"790 kilocycles—*WGY Schenectady, New York, General Electric Co., 50,000 ltd. time."

31

The asterisk refers to General Order No. 42, which relates to power of transmitting stations.

By General Order No. 48 of October 24. 1928, which refers to General Order No. 41 dated September 4, 1928, Exhibits F, F-1 hereto, a "limited time" broadcasting station is permitted to operate up to the average time of sunset at the unrestricted station to the west of the limited station, or a other time at which the unrestricted station is temporarily not using the frequency, if such operation does not cause heterodyne interference. In the present case, the WGY 'limited license" bearing date October 17, 1928, served on this appellant, October 29, 1928, and effective, according to its terms, November 11, 1928, provides for operation on 790 kilocycles, and station KGO at Oakland, California, has a full time, unlimited license on 790 kilocycles. The average time of sunset at Oakland corresponds to 8.01 P. M. Eastern Standard time, in November. Under present conditions of operation, there will be heterodyne interference between KGO and WGY if they operate simultaneously. The orders of the Commission require WGY

to suspend operations at 8.01 P. M., or earlier, Eastern Standard time, during the month of November.

On October 4, 1928, the General Electric Company made application for a modification of the allocation of the Commission, Exhibit G hereto. On October 23, 1928, the General Electric Company made application for renewal of its license of November 1st, 1927, which application and accompanying papers are Exhibit H-1 hereto. October 29, 1928, the General Electric Company received a 'limited license" from the Commission, dated October 17, 1928, Exhibit I hereto. On November 3, 1928, the General
32 Electric Company filed an application for a modification of the "limited license," with letter of same date; Exhibit J-1 hereto.

The letter of November 3, 1928, respectfully requested a hearing by the Commission on the application of same date on either Wednesday or Thursday, November 7th or 8th, 1928. No reply has been received to this request.

By reason of the aforesaid action of the Commission WGY would have been compelled to discontinue its broadcasting service on November 11, 1928, at 8.01 P. M., Eastern Standard time, or be subject to such penalties for violations of the Radio Act as it may lawfully provide, which, if lawful, may include "a fine of not more than $500 for each and every offense," Sec. 32. Under order of the Court of Appeals of the District of Columbia, entered November 9th, 1928, WGY's former service has been, and is now being, continued.

The Commission has discriminated unfairly against WGY and the communities of approximately 2,400,000 people which it serves. The order of the Commission have allocated four full-time frequencies, or channels to New York State. New York City broadcasting stations have been given three of these frequencies, namely WJZ, WEAF, and WABC, the other frequency being given to station WHAM at Rochester, New York. The Commission has also licensed to operate in New York City approximately 30 other broadcasting stations, on regional and local channels so that the communities in and near New York City have been provided with a wide and excellent variety of program service.

None of the broadcasting stations allotted frequencies by the Commission, unlimited, regional or local, has ever furnished, or can now furnish, the community of
33 approximately 2,400,000 people near Schenectady with satisfactory program service.

The Commission has failed to provide a sufficient number of unlimited frequencies or channels. It has allocated forty such frequencies throughout the United States, eight frequencies for each of the five zones. At least fifty such frequencies should have been provided, as was recommended to the Commission by a conference of representative radio engineers, including Dr. J. H. Dellinger of the Bureau of Standards, acting chairman, in a report released by the Commission under date of April 11, 1928, recommending fifty channels of frequencies for stations operating on 5,000 to 50,000 watts power, as "the minimum that should be provided."

The Commission disregarded the report of these engineers, and provided only forty such frequencies. The Radio Act does not limit the number of such frequencies to forty frequencies, and the Commission could have lawfully provided fifty such frequencies.

Federal Radio Commissioner O. H. Caldwell stated on November 7th, 1928, according to the New York Times of November 8th, 1928, p. 31, that:

"Some of the commissioners felt that twenty-five cleared channels for the entire country would be sufficient, but the engineers called into consultation strongly advised fifty cleared waves. I agree with the engineers' recommendations that fifty stations operating on exclusive channels without interference will greatly improve broadcasting service in the United States. If we can get fifty cleared waves we can clear up the WGY part-time arrangement and give that station an exclusive channel instead of ordering it to close at sunset on the Pacific coast, when KGO at Oakland goes on the air."

34 Because of the reasons herein set forth and appearing from the attached Exhibits, the General Electric Company has appealed from the refusal of the Federal Radio Commission to allow it to continue the exercise of its

right to use broadcasting facilities of station WGY in full-time operation on a frequency of 790 kilocycles, or any frequency substantially equivalent.

GENERAL ELECTRIC COMPANY.
FRANK J. HOGAN,
Attorney.

November 30, 1928.

35 *Verification.*

DISTRICT OF COLUMBIA, *ss:*

Frank J. Hogan, being first duly sworn, deposes and says that he is the attorney of the applicant-appellant General Electric Company; that he has read the foregoing notice of appeal and reasons therefor; that the matters and things therein set forth on personal knowledge are true, and those therein stated on information and belief he verily believes to be true.

[Seal Marie McDonald, Notary Public, District of Columbia.]

MARIE McDONALD.
MARIE McDONALD,
Notary Public, District of Columbia.

Notice to Federal Radio Commission.

The Federal Radio Commission will please take notice that the foregoing notice of appeal and reasons therefor will be filed by General Electric Company forthwith in the Court of Appeals of the District of Columbia, pursuant to the provisions of the Radio Act of February 23, 1927; and, further, that it will move the said Court of Appeals for an order requiring the said Federal Radio Commission to allow it to continue to operate for full time on 790 kilocycle frequency with its present power, or on an equivalent frequency and power without time limit, during the pendency of its appeal.

FRANK J. HOGAN,
JOHN W. GUIDER,
JOHN W. GUIDER,
Attorneys for Applicant-Appellant,
General Electric Company.

Washington, D. C., November 30, 1928.

36 *Certificate.*

The undersigned, Frank J. Hogan, personally appearing before Marie McDonald, a Notary Public in and for the District of Columbia, the said Frank Hogan, being first duly sworn, deposes and says that he is one of the attorneys for the General Electric Company, applicant-appellant herein, and that the foregoing is a true copy of the notice of appeal and reasons therefor to be filed forthwith in the Court of Appeals of the District of Columbia.

FRANK J. HOGAN.

Subscribed and sworn to before me this 30th day of November, 1928.

[SEAL.] MARIE McDONALD.

MARIE McDONALD,
Notary Public, District of Columbia.

Acknowledgment of Service.

Service of a certified copy of the foregoing notice of appeal and reasons therefor is acknowledged this 30th day of November, 1928.

FEDERAL RADIO COMMISSION,
By —— ——.

37 In the Court of Appeals of the District of Columbia.

4870.

GENERAL ELECTRIC COMPANY, Operating Station WGY, Appellant,

v.

FEDERAL RADIO COMMISSION, Appellee,

and

4871.

PEOPLE OF THE STATE OF NEW YORK, Appellants,

v.

FEDERAL RADIO COMMISSION, Appellee.

Preliminary Statement.

The Federal Radio Commission, appellee herein, files this Statement of Facts and Grounds for Decision under pro-

test and saving and reserving all rights it may have with respect to certain motions heretofore filed with and now pending before this Court: (1) its motion to dismiss the appeal and (2) its motion to strike the notice of appeal and reasons therefor from the files.

Proceedings.

This is a proceeding under the Radio Act of 1927, approved February 23, 1927, and the amendment thereto approved March 28, 1928. It is before this Court by reason of a purported appeal from the action of the Federal Radio Commission and is brought under Section 16 of the Radio Act which provides for an appeal to the Court of Appeals of the District of Columbia from certain decisions of the Federal Radio Commission.

In preparing this Statement, appellee assumes that the decision complained of by appellant is either (1) appellee's decision of October 12, 1928, granting appellant's application for renewal of license with a limitation on
38 hours of operation, or (2) appellee's decision of the same day denying appellant's first application for modification.

The General Electric Company, appellant herein, was first licensed to operate station WGY under Acts of Congress approved August 13, 1912, c. 287, 37 Stat. 302; March 4, 1913, c. 114, 36 Stat. 736.

Appellant's first application for license was filed with the Department of Commerce, Bureau of Navigation, January 23, 1922. (Document No. 1). On February 4, 1922, the Secretary of Commerce acted upon this application, granting a license to appellant to operate its station for a period of three months. (Document No. 2) Appellant has continued to operate its station WGY under further licenses granted by the Secretary of Commerce for periods of three months, these licenses becoming effective on the following dates: April 24, 1922; June 19, 1922; September 19, 1922; September 27, 1922; December 27, 1922; March 17, 1923; May 21, 1923; August 21, 1923; November 15, 1923; February 11, 1924; May 1, 1924; July 18, 1924; October 9, 1924; January 28, 1925; April 24, 1925; July 27, 1925; October 26, 1925; July 19, 1926; October 16, 1926; and January 22,

1927. Documents Nos. 4, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 37, 31, 33, 35, 38, 40 and 44).

The Radio Act of 1927 repealed the Act of 1912 and constituted the Federal Radio Commission as the licensing authority in carrying out the provisions of the new act. Appellant continued the operation of its station WGY under licenses granted by the Federal Radio Commission.

On April 5, 1927, the Federal Radio Commission took its first action as the licensing authority with respect to appellant by promulgating its General Order No. 5, which provides in part as follows: (Document No. 48)

"The Federal Radio Commission will issue a temporary permit to operate a radio broadcasting station, good only until final action is taken by the Commission on the application for license, to each holder of a license or an extension thereof from the Secretary of Commerce under the Act of August 13, 1912, whose application for a license under the Radio Act of 1927 has been received by the Federal Radio Commission on or before April 24, 1927, and such temporary permit shall, until withdrawn, be considered as having the force and effect of a license in so far as the penalties provided in the Radio Act of 1927 are concerned."

39 On April 16, 1927, appellant, complying with the above order, filed with the Commission its application for a radio station license for station WGY (Document No. 49) and under date of April 21, 1927, appellant was authorized by the Commission to operate its station, pending final action on this application. (Document No. 50). On June 1, 1927, appellant was authorized to operate its station for the term ending July 31, 1927. (Document No. 51). The period of this license was extended by General Order No. 13 of the Commission to terminate August 14, 1927. (Document No. 53).

Upon application of appellant filed August 10, 1927, the existing license was extended to terminate October 14, 1927 (Document No. 56), and later extended to terminate October 31, 1927. (Document No. 57). On November 1, 1927, appellant was licensed to operate for the term beginning on the latter date and ending December 31, 1927. (Document No. 59). This license was continued in effect by the

Commission's General Orders numbered 21, 22, 23, 25, 27, 33, 35, 38 and 44, until November 11, 1928. (Documents Nos. 60, 61, 62, 63, 64, 65, 66, 67 and 68). On January 16, 1928, appellant filed with the Commission application for renewal of its then existing license, dated January 14, 1928. (Document No. 69). This application was favorably acted upon by the Commission on October 12, 1928 (Document No. 95), on which date the Commission directed that a renewal license be issued for the period beginning November 11, 1928, at the hour of 3 o'clock a. m. Eastern Standard Time, this being the date of expiration of the then existing license, and ending January 31, 1929. On October 17, 1928, this license issued. (Document No. 99).

By the terms of this license appellant's station WGY was classed as a limited time broadcasting station as that term is defined in the Commission's General Order No. 48. (Document No. 104).

Previous to the time of renewal of appellant's license, namely on or about August 30, 1928, the Commission promulgated its General Order No. 40. (Document No. 73). By this order the 90 channels (frequencies) available for the use of broadcasting stations of this country were allocated and assigned in equal proportion to the five zones established by the Radio Act of 1927. This action was taken for the purpose of carrying out the provisions of the Davis Amendment of March 28, 1928, with respect to the establishment of equality of broadcasting service, and for the further purpose of securing adequate conditions of reception for the public. General Order No. 40 (Document No. 73) provides in part as follows:

"A. The following frequencies are allocated to the First, Second, Third, Fourth and Fifth Zones, respectively, as below indicated for use by broadcasting stations, the amount of power to be used by such stations to be determined by further order of the Commission:

First Zone: 660, 710, 760, 860, 990, 1060, 1100 and 1150 kc.

Second Zone: 700, 750, 820, 980, 1020, 1070, 1110 and 1170 kc.

Third Zone: 650, 740, 800, 850, 1040, 1080, 1140, and 1190 kc.

Fourth Zone: 670, 720, 770, 810, 870, 1000, 1090, and 1160 kc.

Fifth Zone: 640, 680, 790, 830, 970, 1050, 1130, and 1180 kc.

This portion of the order affected appellant, in that the frequency of 790 kilocycles then used by it was allocated to the Fifth Zone for full time use. Appellant's station WGY is in the First Zone. Appellant was duly notified of the promulgation of this order and furnished a copy thereof immediately following the date of its issuance, to wit; on or about September 1, 1928.

The Commission on September 8, 1928, assigned the various broadcasting stations then licensed to the 90 channels in accordance with the allocation established by General Order No. 40. The amount of power to be used and the time of operation of each station so assigned was specified.

The Commission made the following findings with respect to these assignments:

"1. With respect to each broadcasting station, the new assignments of frequency, power and hours of operation will serve public interest, convenience, or necessity.

"2. All changes in frequency, authorized power and/or hours of operation which said new allocation will impose on existing broadcasting stations will promote public convenience and interest, and will serve public necessity, and are necessary to prevent interference between broadcasting stations.

41 "3. With respect to all assignments of frequency, authorized power and hours of operation specified in said new allocation, and with respect to all changes thereof imposed by said new allocation, said assignments and said changes are necessary to carry out and to comply with the provisions of the Radio Act of 1927 and the provisions of Section 5 of the Act of Congress approved March 28, 1928, entitled "An Act continuing for one year the powers and authority of the Federal Radio Commission under the Act of 1927, and for other purposes," and with the provisions of General Order No. 40 of the Commission.

"All the foregoing findings, however, are to be considered tentative and subject to such new facts and considerations as may be brought to the attention of the Commission prior to November 11, 1928. The Commission thereupon de-

termined upon the following course of procedure for putting said new allocation into effect:

"1. That said new allocation shall become effective at the hour of 3 o'clock a. m. Eastern Standard Time, November 11, 1928, with respect to all broadcasting stations listed therein which at that date shall be in operation under licenses issued by the Commission, and which shall, prior to that date, have received licenses, renewals of licenses or extensions of licenses authorizing them to operate after that date.

"2. That with respect to all stations listed therein which are now licensed by this Commission and which have on file with this Commission applications for renewal of licenses, the Commission will examine such applications and on or shortly after October 12, 1928, will issue renewals of licenses in all cases where it finds that public interest, convenience or necessity will be served thereby, said renewals however, to authorize the frequency, power and hours of operation set forth in said new allocation. In all cases where the Commission is not satisfied that public interest, convenience or necessity would be served by granting of applications for renewals, the Commission will hold hearings in accordance with Section 11 of the Radio Act of 1927, and pending the conclusion of such hearings will modify the existing licenses of such applicants in accordance with said new allocation and will extend such licenses thus modified for a limited period of time beyond November 11, 1928.

"3. That hearings will be accorded to all stations making proper application therefor asking for modification of the assignments indicated in said new allocation said applications to take the form of requests for modification of the licenses or renewal of licenses to be issued on or shortly after October 12, 1928; that such hearings will, so far as possible, be held during the period between October 12 and November 11, 1928; that applications for such modifications will be received prior to October 12 as well as thereafter.

"4. That in the event that as a result of any such application for modification and/or of any hearing granted thereon, the assignment of any broadcasting station is changed, the said new allocation is to be considered as changed accordingly."

42 Appellant's assignment was as follows:

			Assignments.					
			Former.			New.		
"Station.	Location.	Owner.	Shared with.	Power.	Kc.	Shared with.	Power.	Kc.
WGY	S. Schenectady.	General Electric Co.	....	50000	790	Limited	50000	790

Addendum.

"The following stations, included in the foregoing list, are to be classed as part-time stations:

* * * * * * *

Station.	Location.
WGY	Schenectady, New York

* * * * * * *

"The foregoing stations will not be permitted to operate during the evenings hours simultaneously with other stations assigned to the same frequencies."

(The entire action of the Commission as set forth in the foregoing is found in Document Nos. 78-80.)

On September 8, 1928, the Commission promulgated the following rules and regulations with respect to the procedure to be followed by licenses affected by General Order No. 40, and the assignments made thereunder: (Document No. 78)

"It is the intention of the Commission to issue renewal licenses to most of the existing broadcasting stations listed in the attached list on or shortly after October 12, 1928, said licenses to be for a period of 90 days commencing on November 11, 1928. These licenses will correspond to the data on the attached list with respect to the frequency, the authorized power, and the hours of operation to be assigned to the respective stations. They cannot be issued prior to that date because of a provision in the Radio Act of 1927 forbidding the granting of a renewal of an existing station license more than 30 days prior to the expiration of the original license. The existing licenses are being extended by order of the Commission for 42 days from October 1, 1928, to terminate cn November 11, 1928, at the

hour of 3 o'clock a. m., Eastern Standard Time. This extension of time prior to the effective date of the reallocation will give all broadcasting stations an opportunity to take such steps as may be necessary to enable them to conform to their new assignment, and also to ask for and obtain from the Commission hearings in cases where the assignment sare not satisfactory. In a limited number of cases where the Commission is not satisfied that public interest, convenience or necessity would be served by the granting of renewal licenses to existing broadcasting stations, the Commission will so notify the licensees and hearings will be held before renewals will be granted.

43 "It is the desire of the Commission that any broadcasting station which is dissatisfied with its assignment under the reallocation should have an opportunity to be heard and to demonstrate that public interest, convenience or necessity would be served by a better assignment. In fairness to the stations affected the Commission believes that these hearings should, so far as possible, take place prior to November 11, 1928, the effective date of the reallocation. The Commission will therefore entertain and accord a hearing on all applications asking for a modification of the renewal licenses which will be issued on or shortly after October 12, 1928. In order to save time, the Commission will permit such applications to be filed prior to that date, and will set them for hearing as soon after that date as possible.

"All such applications must specify what frequency, power, and/or hours of operation are desired by the applicant; no application will be entertained which fails to comply with this requirement. As soon as the date for hearing is set, the Commission will notify all broadcasting stations which are directly interested and will give them an opportunity to be heard as well as the applicant. Where the application is for a change in frequency, all broadcasting stations assigned to the requested frequency will be so notified. Where the application is for an increase in power all broadcasting stations assigned to the frequency on which the proposed increased power is to be used, as well as all stations assigned to adjacent channels that are likely to be affected by the increase, will be so notified. Where the application is for an increase or change in hours of operation, all sta-

tions the hours of operation of which would be reduced or changed thereby will be so notified.

"Applications should be made on forms to be provided by the Commission. It is expected that such forms will be in the hands of the Radio Supervisors in the near future but in the meantime they may be obtained by application to the Secretary of the Commission."

The rules above set forth are in addition to other general regulations with respect to hearings established by the Commission and set forth in its General Order No. 37. (Document No. 72.)

The foregoing were immediately brought to the attention of appellant. A statement of appellant's new assignment, together with the assignments of all other stations, accompanied by a copy of the rules and regulations above quoted were mailed to appellant on or about September 10, 1928. On or about September 25, 1928, appellant was further informed with respect to its assignment as follows: (Document No. 85.)

44 Federal Radio Commission, Washington, D. C.

September 25, 1928.

"Mr. Martin P. Rice,
General Electric Company,
1 River Road,
Schenectady, N. Y.

DEAR MR. RICE:

"Answering your inquiry as to the conditions of operation of the two General Electric broadcasting stations under your direction, WGY and KGO, assigned to channel 790 kilocycles by the new allocation:

"It is the Commission's understanding that while this channel is assigned to the Fifth Zone and to KGO, there is nothing in any Commission regulation or order which will prevent you, as KGO's manager, from modifying KGO's operating time slightly so that both WGY and KGO may enjoy exclusive-channel operation, and each with a time schedule at least 90 per cent of its present operating hours. This can be accomplished as follows:

"Station WGY operates throughout daytime, and during evening to 10 p. m.

"Station KGO operates throughout daytime, stands by from sunset to 7 p. m., and resumes operation from 7 p. m. throughout rest of night.

"Since both stations are under your personal management, this schedule can be varied at will, from night to night, to conform to special features on either station. Thus, if KGO stands by until 8 p. m., WGY may run until 11 p. m. The only restriction imposed by the Commission is that the two stations shall not operate simultaneously while the intervening distance is linked by darkness, (unless the two stations are later synchronized, in which case the remaining hour can be used simultaneously without interference.

"In order that there may be no doubt in your mind that the schedule above is the understanding of a majority of the Commission, I have asked my associates to read and initial this statement, which should set at rest the misleading reports appearing that Station WGY was to be limited to "daylight" or "one-hour" operation.

"You are undoubtedly aware that in its efforts to reduce interference and improve radio reception, under the difficult requirements of the equalizing law, the Commission has had to impose time-sharing and reduced schedules on many stations. In certain cities great 5000-watt stations are dividing time—even four and five to a wavelength. Several hundred stations have been reduced to half-time operation.

"In the face of the severe restrictions thus imposed on many other broadcasters, the Commission feels sure
45 that you will willingly cooperate toward better radio with a slight limitation of your own broadcasting hours, as above suggested,—an arrangement made possible by sharing the 790 kilocycle channel between your own stations, with the aid of the three-hour time difference—rather than adding WGY onto one of New York State's hour exclusive channels, now occupied by WEAF, WJZ, WABC and WHAM, which would impose severe time-division on these New York exclusive channel stations, and deprive the public of at least one high-power transmitter 24 hours a day, (instead of one hour a day).

"No one could be more appreciative than the members of the Commission of the splendid service which WGY has been rendering the listeners of central New York, nor of

the contributions to the radio art made through this station. Personally, I regret that fifty clear channels were not set aside for high-power broadcasters, so that New York's proportion would have been sufficient to take care of all of her great stations. But with conditions as they are, and all things considered, the Commision feels that the allication as made, secures the greatest possible use for New York's facilities, even if at the cost of an hour's reduction of your operating time, which, I am sure, you will gladly concede, in the interest of a reallocation set-up that will bring improved radio to millions of listeners.

"Very truly yours,

O. H. CALDWELL,
Commissioner."

On October 4, 1928, appellant filed with the Commission an application for modification of its proposed assignment, dated October 4, 1928. (Document No. 92.) This application requested an assignment of unlimited time on the frequency of 790 kilocycles, and a power assignment of 150,000 watts. This application was inconsistent with General Order No. 40, in that it specified a frequency which was not available to any station located in the first zone for unlimited time of operation. This frequency had been allocated to the fifth zone as a clear channel on which no other station would be permitted to operate during the evening hours. This application was further inconsistent with General Order No. 42 (Document No. 76) which provides that the power of any station shall not exceed 25,000 watts, except in certain cases when 50,000 watts are permitted for daytime operation or experimental purposes.

On October 12, 1928, there was presented to the Commission a revision of the tentative asignments made under General Order No. 40, and having examined all assignments the Commission made the following finding: (Document No. 95.)

46 "1. With respect to each broadcasting station listed therein, the assignment of which is the same as is set forth in the allocation adopted on September 8th, the Commission reaffirms its finding that such assignments

will serve public interest, convenience or necessity and are necessary to prevent interference between broadcasting stations.

* * * * * * *

"5. With respect to all assignments of frequencies, authorized power, hours of operation specified in said revised allocation and with respect to all changes thereof imposed by said revised allocation, said assignments and said changes are necessary to carry out and to comply with the provisions of the Radio Act of 1927 and the provisions of Section 5 of the Act of Congress approved March 28, 1928, and with the provisions of General Order No. 40 of the Commission."

The Commission then entered the following order:

"1. That to each broadcasting station listed in said revised allocation which has an application for renewal of its license pending before the Commission, a renewal license be issued for the frequency, power and hours of operation indicated in said revised allocation.

* * * * * * *

"4. That each license or renewal license issued under the foregoing directions be so worded as to take effect on November 11th at the hour of 3 o'clock A. M., Eastern Standard Time and to terminate on January 31st, 1929 at the hour of 3 o'clock A. M., Eastern Standard Time."

On the above date a license was issued to appellant. (Document No. 99.)

On October 12, 1928, the Commission having examined the application of appellant, dated October 4, 1928, and it appearing that said application was inconsistent with General Order No. 40, the Commission denied the same. (Document No. 97.) Appellant was duly notified of this action. (Document No. 98.)

On October 18, 1928, appellant was notified as follows, with respect to its application:

47 "Federal Radio Commission, Washington, D. C.

#288.

October 18, 1928.

"General Electric Company,
Schenectady, N. Y.

Attention Mr. Martin P. Rice.

"GENTLEMEN:

"Apparently there has been a misapprehension on your part as to the action taken by the Federal Radio Commission on your recent application for modification of your license, effective November 11, 1928. This misapprehension seems to have been conveyed to a large number of listeners of Station WGY.

"In filing the application in question, you disregarded fundamental rules and regulations of the Commission, copies of which were mailed to you over a month ago. These rules and regulations have been brought to the attention of your representatives repeatedly during the past week and they have been told that there is no difficulty in the way of obtaining a hearing, provided you file a new application which is in compliance with the very reasonable requirements made by the Commission.

"The rules and regulations in question are General Orders Nos. 40 and 42. Under General Order No. 40, the forth cleared channels have been divided equally among the five zones,—eight channels to each zone. The particular channels assigned to the first zone are 660, 710, 760, 860, 990, 1060, 1100 and 1150.

"Instead of applying for one of these channels you applied for a channel assigned to the fifth zone, composed of the states of the far west. What you are really asking the Commission to do is to take away a channel from the fifth zone and give it to the first zone, in violation of the requirements of the Radio Act, as amended, with the inevitable result of breaking down the structure which the Commission has built up after months of work, careful study and consultation with the leading radio engineers of the country.

"In addition, your application requests a power assignment of 150,000 watts, although you must have known that, under the terms of General Order No. 42, the maximum power that the Commission will license on any channel is 25,000 watts, together with an additional 25,000 watts, the continuation of which will depend upon whether interference results.

"In this respect, your application is asking a favor from the Commission which has not been and will not be granted to any station in the country, so long as General Order No. 42 is in effect.

48 "To obtain a hearing, all you have to do is to file a new application specifying a channel which is available to the first zone, and amount of power which is permitted under General Order No. 42. With such an application on file, the Commission will be glad to accord you a hearing just as it would any other applicant. There is no necessity, however, for having a hearing as to the question of whether or not your present application complies with the rules and regulations of the Commission, since it is manifest from an inspection of the documents that it does not. You are, of course, free to attack the whole structure by questioning the validity of these regulations on appeal.

"The Commission feels, however, that your listening public should be informed that if you do not obtain a hearing, it is due to your unwillingness to comply with rules that all other broadcasting stations are at present complying with.

"Very truly yours,

(Signed) LOUIS G. CALDWELL,
General Counsel."

On October 24, 1928, appellant filed with the Commission an application for renewal of its then existing license, and on November 5, 1928, an application for modification of its proposed assignment, in which it requested the frequency represented by 790 kilocycles "or any frequency substantially equivalent to enable continuance of WGY's public service." These applications had not been acted upon by the Commission at the time of the filing of the petition in this cause.

On November 9, 1928, appellant served upon the Federal Radio Commission its Notice of Appeal and on the same date applied to this Court for a stay of proceedings pending the determination of said appeal.

Appellant's omission to comply with Section 16 is not due to any lack of knowledge or inability to obtain information. The Federal Radio Commission advised appellant of every action taken by it and, with infinite patience, communicated with appellant's representatives by telephone, letter, and personal conference, answered every inquiry, and furnished all information requested.

49 *Statement of Facts.*

On October 12, 1928, the Commission authorized the renewal of appellant's then existing license upon the application therefor dated January 14, 1928. This action was pursuant to Section 11 of the Radio Act 1927, which provides in part as follows:

"Sec. 11. If upon examination of any application for a station license or for the renewal or modification of a station license the licensing authority shall determine that public interest, convenience, or necessity would be served by the granting thereof, it shall authorize the issuance, renewal, or modification thereof in accordance with said finding. In the event the licensing authority upon examination of any such application does not reach such decision with respect thereto, it shall notify the applicant thereof, shall fix and give notice of a time and place for hearing thereon, and shall afford such applicant an opportunity to be heard under such rules and regulations as it may prescribe."

At the time this application received consideration certain regulations made by the Commission under the powers conferred in Section 4 of the act, were in effect. This section provides in part:

"Sec. 4. Except as otherwise provided in this Act, the commission, from time to time, as public convenience, interest, or necessity requires, shall——

* * * * * *

(*f*) Make such regulations not inconsistent with law as it may deem necessary to prevent interference between stations and to carry out the provisions of this Act: Provided, however, That changes in the wave lengths, authorized power, in the character of emitted signals, or in the times of operation of any station, shall not be made without the consent of the station licensee unless, in the judgment of the commission, such changes will promote public convenience or interest or will serve public necessity or the provisions of this Act will be more fully complied with;"

These regulations were promulgated for the purpose of preventing interference and to carry out the provisions of the amendment, approved March 28, 1928, which provides "for equality of service as to transmission and reception between the various zones and the states within each zone."

The regulations refered to are included in the Commission's General Order No. 40 of August 30, 1928. This order provides in part:

50 "That a band of frequencies extending from 550 kc/s to 1500 kc/s, both inclusive, be * * * assigned to and for the use of broadcasting stations. * * *

"That within said broadcast band the separation of 10 kilocycles be maintained between the frequencies assigned for use by broadcasting stations."

The effect of this portion of the order is to establish 96 operating channels for the use of all broadcasting stations. Six of these channels are reserved for the exclusive use of broadcasting stations located in the Dominion of Canada in accordance with an informal agreement entered into by representatives of the regulatory bodies of the two countries.

The 90 remaining channels are allocated in equal proportion to the five zones created by the act, in compliance with the provisions of the amendment above referred to.

General Order No. 40 also regulates the use of each of these channels by limiting the number of stations, the power used, and the time of operation. On forty of the channels, referred to as 'exclusive," or "clear" channels, no two

stations are permitted to operate simultaneously except during the hours of daylight, or at such times that interference will not be caused by such simultaneous operation. On the 50 channels remaining, two or more stations are permitted to operate simultaneously with power limited as follows: 6 channels, 100 watts; 40 channels, 1,000 watts; 4 channels, 5,000 watts. These channels are generally referred to as "local" and "regional" channels, their designations relating to the territory or area which the stations occupying these channels may be expected to serve.

The regulations with respect to "exclusive," "regional" and "local" channels were made by the Commission after an extended investigation and consideration of all factors involved affecting public interest, including the necessity of reducing interference and carrying out the provisions of the Davis Amendment. The problems involved were submitted by the Commission to a group of experts consisting largely of expert radio engineers. This group submitted a memorandum to the Commission on March 30, 1928, suggesting two plans with respect to the number of "exclusive" or "clear" channels. In one of these
51 plans 50 exclusive channels were provided, in the other 30 exclusive channels. (Document No. 120 Appendix E (3).) The broadcasting committee of the Institute of Radio Engineers submitted a report (Document No. 120 Appendix E (4).) covering these matters. On April 6, 1928, the Commission conferred again with a group of radio engineers (for a summary and discussion of this conference see Document No. 120 Appendix E (6).) On April 23, 1928, the Commission held a further hearing to permit the radio industry to express its views with respect to the reduction of interference and the application of the Davis Amendment. This was attended by representatives of practically all interests concerned directly or indirectly with broadcasting activities. A series of recommendations was made to the Commission. (Document No. 120 Appendix E (9).)

The Commission having received the benefit of the judgment of many individuals, including the best qualified engineers and being familiar with the divergence of opinion relating to the proper number of "exclusive" channels, determined that public interest, convenience and necessity

would best be served by the establishment of 40 "exclusive" channels, 44 "regional" channels, and 6 "local" channels. This decision was carried into effect by General Order No. 40, above referred to.

These 40 exclusive channels were allocated in equal proportion to the five zones, each zone receiving the use of 8 channels.

Appellant's station WGY located at Schenectady, New York, is in the first zone. Based upon the estimates of 1928 population as prepared by the United States Census Bureau, New York bears the following relation to other states in this zone:

State.	Population.	Per cent (20% total for zone).	Per cent (100% total for zone).
Maine	795,000	.581	2.90
New Hampshire	456,000	.333	1.60
Vermont (1920 Census)	352,428	.258	1.30
Massachusetts	4,290,000	3.135	15.60
Connecticut	1,667,000	1.218	6.10
Rhode Island	716,000	.523	2.60
New York	11,550,000	8.441	42.20
New Jersey	3,821,000	2.793	13.90
Delaware	244,000	.178	.90
Maryland	1,616,000	1.180	5.90
District of Columbia	522,000	.403	2.00
Porto Rico (1920 Census)	1,299,809	.949	4.70
Virgin Isl. (1917 Census)	26,051	.019	.90
	27,385,288	20.011%	100.60%

52 The following shows the number of full-time station assignments secured by each state as the result of the action of the Commission in licensing stations under its General Order No. 40:

State.	Regional.	Clear channel.	Ltd. time.	Day.	Local.
Maine	1.00	....	..	..	1.00
N. Hamp.	.50	....	..	..	1.00
Vermont	....	....	..	..	1.00
Mass.	4.00	1.00	..	1	4.00
Conn.	1.50	.50	..	..	....
R. Island	1.00	....	..	..	2.00

State.	Regional.	Clear channel.	Ltd. time.	Day.	Local.
New York	11.00	4.20	3	5	11.00
N. Jersey	2.00	1.80	..	1	.50
Delaware	1.00	....	..	..	1.00
Maryland	2.00	.50	..	..	3.00
Dis. of Col.	2.00	....	..	1	....
Porto Rico	1.00	....	..	..	....
Virgin Isl.	....	....	..	..	....
Zone total	27.00	8.00	3	8	24.50

On the basis of population the State of New York is actually entitled to 42.2 per cent of the 8 "exclusive" channels available to the first zone, or 3.37 channels. The actual assignments under the allocation provided for in General Order No. 40 gave the State of New York the use of 4.2 "exclusive" channels. The four full-time assignments were made to the following stations:

Frequency.	Call letters.	Location.	Licensee.
660	WEAF	Bellmore, N. Y.	National Broadcasting Co.
760	WJZ	New York City.	Radio Corporation of America.
860	WABC	New York City	Atlantic Broadcasting Co.
1150	WHAM	Rochester, N. Y.	Stromberg-Carlson Tel. Mfg. Co.

Appellant's station WGY was not assigned an exclusive channel with unlimited time of operation. It was, however, assigned the use of the same channel it was then occupying (790 kc) with the restriction that its operation should not interfere with the other station (Station KGO) assigned to that channel. The channel of 790 kc, by General Order No. 40, was allocated to Zone Five and assigned to appellant's Station KGO at Oakland, California.

Because of the geographic separation between Station KGO and WGY the latter station may, under this assignment, operate until sunset at Oakland, California, without

possibility of interference. This is due to the fact
53 that in daylight hours the area within which a station may cause interference is greatly reduced. Daylight intervening between these two stations for practically three hours after sunset at Schenectady, New York, enables Station WGY under this assignment, to operate for three hours after sunset at Schenectady without interference with Station KGO at Oakland, California.

Station WGY was informed that the Commission would permit it to make whatever arrangements it desired with Station KGO with reference to division of time in the early evening hours so that WGY might continue in operation each day until 10 P. M.

Under the rules adopted by the Commission in General Order No. 37, and under further rules and regulations established by the Commission, ample opportunity is afforded each station dissatisfied with its assignment to apply to the Commission for modification of its assignment. These regulations require that the station so applying for midification specify a channel allocated to the zone in which it is located. Appellant refuses to comply with these rules, but instead, in its application filed October 4, 1928, requested the frequency of 790 kilocycles for unlimited operation. This channel, as previously stated, had been assigned to the Fifth Zone as an exclusive channel. Appellant knowingly refused to comply with the Commission's rules and regulations, with respect to the requirement that applications specify a definite frequency available to the applicant's zone.

By following the orderly procedure provided for by the Commission, appellant may have its right to a clear channel in the first zone passed upon by the Commission after a hearing in which a station of the first zone, which might be affected, would also have a full opportunity to be heard.

Appellant's application of October 4, 1928, for unlimited operation on a frequency assigned to the fifth zone raises no issue that may be determined in applicant's favor unless the regulations established by General Order No. 40 are wholly disregarded. These regulations being made in compliance with the mandate of Congress as contained
in the Davis Amendment had previously determined
54 the location of stations entitled to the use of this frequency. That appellant's refusal to apply for a

frequency within its zone was deliberate and not due to its unfamiliarity with the regulations of the Commission is apparent from the correspondence passing between the Commission and appellant. (Documents No. 101 to No. 112).

The record discloses that appellant's application dated January 14, 1928, was granted by the Commission on October 12, 1928. That the license issued thereunder does not permit an unlimited time of operation is due to limitations such as the Commission has no power to correct.

The Commission has not refused appellant a hearing but has done everything in its power to afford it a hearing that presents an issuable question.

Appellant has had the exclusive use of the frequency of 790 kc for a relatively short period of time, i. e., since July 31, 1927. Previous to that time it had shared the following frequencies with other stations as follows:

Date.	Frequency.	Wave length.	Shared with.
Feb. 4, 1922	833	360	All broadcasting stations.
Sept. 27, 1922	750	400	All Class B broadcasting stations.
May 21, 1923	790	380	Station W H A Z
Nov. 1, 1927	790	380	None.

Appellant has never exercised the broadcasting privilege except under governmental regulation. It has been operating under licenses granted by the Secretary of Commerce and the Federal Radio Commission. Such licenses have never been granted for a period to exceed three months.

As required by joint resolution of Congress of December 8, 1926, appellant has waived any right or any claim of right, as against the United States, to any wavelength, or the use of the ether in radio transmission, because of previous license to use the same or because of the use thereof.

55 *Grounds for Decision.*

1. *Commission's decision of October 12, 1928, on appellant's application for renewal of license, dated January 14,*

1928. This decision was made at a meeting of the Commission held on October 12, 1928, together with decisions on approximately 618 other applications for renewal of license on the part of all existing broadcasting stations in the United States, and a large number of applications for construction permits and for licenses in connection with new stations. The decision is set forth, together with the findings on which it is based, in the minutes for that meeting (Appellee's Document No. 95). It was preceded by tentative decisions on all these same applications, made on September 8, 1928, and recorded, together with the Commission's findings, in the minutes of the meeting of that date. (Appellee's Document No. 78).

Neither the final nor the tentative decision with respect to appellant's application was preceded by a formal hearing. No hearings were held by the Commission on any of the applications before it, whether they were for construction permits, licenses, or renewals of license, where the applications were *granted*. Under the Commission's interpretation of the law, an application is to be considered as granted, even though the frequency, amount of power, or hours of operation are different than those requested, and under such circumstances the Commission is not required to fix a time and place for hearing or to hold a formal hearing, in the absence of a specific application for modification of the new license. The Commission considers that it went beyond what was strictly required of it by law in making provision for the filing and hearing of applications for modification in advance of the issuance of licenses.

There having been no formal hearing there is no transcript of evidence to which reference can be made in support of the Commission's decision on appellant's application. The decision was not made without evidence or reasons, however. The evidence was that furnished over a long period of time by appellant's applications and answers to questionnaires, voluminous mail from listeners all over
the country as to the service rendered by appellant's
56 station, interviews with appellant's representatives
and with others having pertinent information, records of appellant's service from time to time as furnished by newspaper accounts, and from other sources. The Commission had the same sort of evidence with regard to the

six hundred other stations whose applications were before it. Having this evidence, the Commission sought to assign Station WGY and each other station in the country its proper-share of the available broadcasting facilities. The decision could not be made simply on the basis of the service rendered by Station WGY without consideration of the claims of other stations; their services, and the need thereof on the part of the listening public, had to be weighed and *compared*. Whatever privileges are granted to one station must necessarily be subtracted from those available for other stations. After careful study of the evidence before it the Commission made its new allocation. This was done by tentative action on September 8th, and final action on October 12th. Its decision with regard to appellant's application for renewal was that the application should be granted and that a renewal license should be issued to it for the same frequency and the same power which it had under its then-existing license, but with slightly reduced hours of operation.

The reasons for the Commission's decision, in addition to the evidence it had before it, are to be found in General Order No. 40 and in the application thereof. Under the rules and regulations incorporated in this order, eight the forty cleared channels provided for are assigned to the First Zone. The others are assigned to the other four zones, eight to a zone. Appellant's station is of such a character with respect to power capacity, and the region desired to be served by it is of such extent, that it can be accommodated only on a cleared channel. Because of incontrovertible physical laws, two such stations cannot operate simultaneously during evening hours on the same channel within the United States without causing fatal heterodyne interference. Because of the decreased interference range during daylight hours, two such stations can operate
57 simultaneously up until approximately the time of sunset at the station to the west, i. e., until the two stations are linked by darkness, if they are sufficiently far apart geographically. These "daylight" privileges have also been distributed by the Commission equally among the five zones.

On the basis of the evidence before it, and guided by the provisions of Section 5 of the amendatory act approved

March 28, 1928, the Commission was of the opinion that there were in the First Zone ten stations better entitled to positions on the eight cleared channels than WGY, six of them to full time operation, one to three-quarters time and another to one-quarter or the same channel, and two to one-half time each on the same channel. As a matter of fact WGY has a better assignment than the last three-mentioned stations.

On the basis of population alone, the State of New York was entitled to but 3.37 of the eight cleared channels. Because of equitable considerations, including the fact that New York City is the great population center of the zone and is also the center of program resources, the Commission actually allocated 4.25 of these channels to the State, 3.25 of them being to stations in New York City (WEAF, WJZ, WABC and WLWL) and one to a station in Rochester, N. Y. (WHAM). The other 3.75 channels were distributed among Springfield, Mass., Hartford, Conn., Newark, Atlantic City, and Baltimore. The Commission did not feel that any larger share of the channels could be given to the State.

The Commission, on the evidence before it, decided that of the New York stations, WHAM, WEAF, WJZ and WABC, all had superior claims to full time operation on a cleared channel to those of WGY. WLWL has only a quarter time and does not seriously affect the problem; it is, however, the station owned and operated by the Missionary Society of St. Paul, the Apostle, and has peculiar and, to the Commission, convincing claims to the limited hours which it enjoys on a cleared channel. WHAM at Rochester, N. Y., provides service for a large portion of western New York, not otherwise regularly served by a high-powered station. WEAF and WJZ at New York City are operated by the National Broadcasting Company, in which ap-
58 pellant is a controlling factor by reason of its stockholding; these two stations are the keys to the two chain networks known as the Blue and Red chains. WABC is the key station for the Columbia network, an independent organization. Without attempting to go into all the considerations and evidence which led to the Commission's action it is sufficient to point out again the fact that a station in New York City reaches a population tremendously

in excess of that reached by any station located elsewhere in the First Zone; it serves thickly inhabited areas in Connecticut, New Jersey, and even the Philadelphia region in the Second Zone. The population thus served is greater by much more than three times that of the Schenectady area.

Furthermore, appellant's station has not, for a considerable period last past, furnished any substantial amount of original programs. Its evening hours have been almost entirely devoted to the chain programs given by WEAF at New York City and given also by WHAM at Rochester. After 10 o'clock p. m., under the arrangement suggested by the Commission, WGY listeners can get exactly the same programs by tuning in on these or on other more distant chain stations; the service will not, naturally, be as dependable, but it will be as good as, or better than, is had by many other parts of the United States equally entitled to service. Schenectady and Albany also get service from other stations, such as the high-powered WBZ at Springfield, Mass., as may be seen by reference to the list of stations in the record (Appellee's Document No. 96).

Appellant's station has been given the next best thing to full time on a cleared channel. It has all the advantage of a cleared channel throughout daylight hours and in the evening up until 10 o'clock p. m. In addition, appellant's two other stations, KGO at Oakland, Cal., and KOA at Denver, Colo., have both been given full time operation on cleared channels. It can hardly be said that appellant has been harshly treated.

The Commission does not claim that its decisions on the applications before it are infallible. It has intended to have, and has provided for, hearings for all dissatisfied stations. Under its construction of the law, however, these hearings should be the result of a specific application from the dissatisfied party, so that the issues may be defined and other interested parties notified. Having, on the
59 basis of the evidence before it, found that certain stations in the First Zone are better entitled to positions on cleared channels than WGY, it does not propose, unless required by this Court, to deprive any of these stations of their privileges without a hearing at which evidence is produced and arguments advanced showing that

the Commission was in error and that WGY has better claims to such privileges.

2. *Commission's decision of October 12, 1928, denying appellant's application for modification dated October 4, 1928.* This application asked for full time operation on the frequency of 790 kc. with power of 150,000 watts. It did not ask for any frequency substantially equivalent to 790 kc. or for any frequency whatsoever other than 790 kc.

The application was denied without hearing because (1) it asked for full time operation on a frequency assigned to the Fifth Zone and not available to any station for full time operation in the First Zone, in violation of General Order No. 40, and (2) it asked for power of 150,000 watts, although under General Order Nos. 40 and 42 the maximum power that will be assigned to any broadcasting station for such use is 50,000 watts, 25,000 watts of which is on an experimental basis. The application on its face discloses, therefore, that what it seeks cannot be granted and a hearing is useless. The Commission construes Section 11 of the Radio Act of 1927 as requiring a hearing only when an application is in proper form and requests something which can be granted under the law and under the rules and regulations of the Commission; in other words, where the issue is reduced to the question as to whether the granting of the application will serve public interest, convenience or necessity. If the application is from a station in the First Zone and seeks a cleared channel, it must definitely specify the channel requested and the channel must be one of those assigned to the First Zone by sub-paragraph A of paragraph 4 of General Order No. 40.

Respectfully submitted,

FEDERAL RADIO COMMISSION.
IRA E. ROBINSON,
Chairman.

60 [Endorsed:] Nos. 4870, 4871. Court of Appeals, District of Columbia. General Electric Company, operating Station WGY, appellant, v. Federal Radio Commission, appellee, and People of the State of New York, appellants, v. Federal Radio Commission, appellee. Appellee's Statement of Facts and Grounds for Decision. Louis G. Caldwell, General Counsel, Federal Radio Com-

mission. Court of Appeals, District of Columbia. Filed Nov. 28, 1928. Henry W. Hodges, clerk.

61 In the Court of Appeals of the District of Columbia.

No. 4880.

GENERAL ELECTRIC COMPANY, Operating Station WGY, Appellant,

v.

FEDERAL RADIO COMMISSION, Appellee.

Statement of Facts and Grounds for Decision.

Preliminary Statement.

The Federal Radio Commission, appellee herein, files this Statement of Facts and Grounds for Decision under protest and saving and reserving all rights it may have with respect to certain motions heretofore filed with and now pending before this Court: (1) its motion to dismiss the appeal and (2) its motion to strike the notice of appeal and reasons therefor from the files.

Proceedings.

This is a proceeding under the Radio Act of 1927, approved February 23, 1927, and the amendment thereto approved March 28, 1928. It is before this Court by reason of a purported appeal from the action of the Federal Radio Commission and is brought under Section 16 of the Radio Act which provides for an appeal to the Court of Appeals of the District of Columbia from certain decisions of the Federal Radio Commission.

For the purpose of this statement, appellee assumes that the action of the appellee on October 12, 1928, granting a license to appellant is a decision upon an application within the meaning of Section 16 of the Radio Act, 1927

In a proceeding now before this Court, entitled General Electric Company, operating Station WGY, Appellant, versus Federal Radio Commission, Appellee, Appeal No. 4870,

appellee has heretofore filed certain papers and documents relating to said decision. Cause No. 4870 and the present proceeding involve the same parties and are based upon the same decision of the Federal Radio Commission and by reason of this fact appellee incorporates herein, by reference, and as if physically attached hereto, the following documents filed in Cause No. 4870: Appellee's Documents Nos. 1 to 104, inclusive, and 106 to 116, inclusive, and 119 to 120, inclusive.

Appellee further incorporates by reference all of that portion of its "statement in writing of the facts and grounds for its decision," heretofore filed in said Cause No. 4870, following the heading "Proceedings" to but not including the heading "Statement of Facts."

Statement of Facts.

Appellee further incorporates by reference all that portion of its said "statement in writing of facts and grounds for its decision" heretofore filed in said Cause No. 4870, following the heading "Statement of Facts," to but not including, the heading "Grounds for Decision."

Appellee in Cause No. 4870 made the following statement:

"Appellant has had the exclusive use of the frequency of 790 kc for a relatively short period of time, i. e., since July 31, 1927. Previous to that time it had shared the following frequencies with other stations as follows:

Date.	Frequency.	Wave length.	Shared with
Feb. 4, 1922	833	360	All broadcasting stations
Sept. 27, 1922	750	400	All class B broadcasting stations.
May 21, 1923	790	380	Station WHAZ
Nov. 1, 1927	790	380	None."

The records of the Federal Radio Commission show that appellant has never had the exclusive use of the frequency of 790 kc. On July 7, 1927, Station WCAJ, Nebraska Wesleyan University at Lincoln, Nebraska, began operating on this frequency under authority granted by this Com-
63 mission and continued to so operate under license until November 11, 1928. (Documents A1, A6, A7,

A8, filed herewith and Documents 60-68 filed in Cause No. 4870.)

Station KMMJ, the M. M. Johnson Company, Clay Center, Nebraska, also used this frequency from July 7, 1927, to October 31, 1927. (Documents A1, A2, A3.)

Station KMTR, KMTR Radio Corporation, Hollywood, California, operated on this frequency under license from April 29, 1927, to June 1, 1927. (Documents A9, A10, A11.)

Station WMBL, Benford's Radio Studios, Lakeland, Florida, operated on the frequency of 790 kc, under authority of the Commission from April 22, 1927, to June 1, 1927. (Document No. A4.)

Station WOAN at Lawrenceburg, Tennessee, used this frequency under authority of the Commission from April 22, 1927, to June 1, 1927. (Document No. A5.)

Grounds for Decision.

Appellee further incorporates by reference all that portion of its said statement in writing, filed in said Cause No. 4870, following the heading "Grounds for Decision."

If, however, the Commission be in error as to its construction of Section 11 of the Radio Act of 1927, and if that section, properly construed, requires an opportunity for hearing on an application for renewal of license before the Commission may decide to issue a new license differing with respect to frequency, power and hours of operation from the license sought to be renewed, the following additional grounds exist in support of the Commission's decision of October 12, 1928, on appellant's application for renewal dated January 14, 1928:

1. After and by reason of General Order No. 40, adopted by the Commission on August 30, 1928, and immediately thereafter promulgated to all broadcasting licensees,
64 including appellant, appellant's application for renewal could not be granted by the Commission, with or without hearing. The frequency authorized in appellant's then-existing license was 790 kc; under General Order No. 40 this frequency became a cleared channel available for full-time operation only to broadcasting stations in the Fifth Zone. Appellant having been notified and served with a copy of said General Order No. 40 on or immediately after September 1, 1928, it therefore became appellant's

duty, under appellant's construction of the law, to file a new application for license specifying a frequency available to broadcasting stations in the First Zone and suitable to appellant's station, if it desired to be heard on an application for full time on a cleared channel. Appellant not only failed to make such an application but, ignoring General Order No. 40, applied again for full-time operation on 790 kc by its application for modification dated October 4, 1928.

2. The Commission did provide for an opportunity for hearing in substance and in fact on appellant's application for renewal. On September 8, 1928, it set up and announced a tentative allocation on the basis of which hearings might be held. Such a structure was a necessary prerequisite to hearings with intelligible issues, so that the comparative merits of stations competing for similar assignments might be heard and decided. The procedure by which a hearing might be held was carefully explained in detail to applicant and to all others in the statement circulated on September 11, 1928. Forms were provided and appellant obtained these forms. Every issue in which appellant was interested could have been raised and heard by complying with the procedure. Appellant refused to comply with it.

3. If appellant is right in its construction of the law, then General Order No. 40 was itself a denial of appellant's application for renewal dated January 14, 1928.

Pursuant to Section 16 of the Radio Act of 1927, the Federal Radio Commission transmits herewith a certified copy
of its minutes of October 12, 1927, containing the
65 above decisions with respect to Station WGY, owned
and operated by the General Electric Company. Transmitted herewith are true copies of certain documents on file with the Federal Radio Commission pertaining to this proceeding, the same being numbered A1 to A11, inclusive. Appellee incorporates by reference, the following documents filed with this Court in Cause No. 4870, entitled General Electric Company, operating Station WGY, versus Federal Radio Commission: Appellee's Documents Nos. 1 to 104, inclusive, 106 to 116, inclusive, 119 to 120, inclusive.

Respectfully submitted,

FEDERAL RADIO COMMISSION.
IRA E. ROBINSON,
Chairman.

66 In the Court of Appeals of the District of Columbia.

No. 4880.

GENERAL ELECTRIC COMPANY, Operating Station WGY, Appellant,

v.

FEDERAL RADIO COMMISSION, Appellee.

Notice.

December 19, 1928.

To Frank G. Hogan, Esq.,
Attorney for General Electric Co., appellant:

Please take notice that on the above date the Federal Radio Commission filed with the Court of Appeals of the District of Columbia its Statement of Facts and Grounds for Decision in the above entitled cause.

LOUIS G. CALDWELL,
Attorney for Federal Radio Commission.

Acknowledgment of Service.

Receipt of the above notice together with one copy of the above statement of the Federal Radio Commission is acknowledged, this 19th day of December, 1928.

FRANK J. HOGAN,
Attorney for General Electric Company.

67 [Endorsed:] In the Court of Appeals of the District of Columbia. No. 4880. General Electric Company, operating Station WGY, Appellant, v. Federal Radio Commission, Appellee. Statement of Facts and Grounds for Decision. Federal Radio Commission, Louis G. Caldwell, General Counsel. Court of Appeals, District of Columbia. Filed Dec. 19, 1928. Henry W. Hodges, Clerk.

The General Electric Company filed its first application for the operation of its station, W G Y, with the Bureau of Navigation, Department of Commerce, said application being dated January 23, 1922. Said application is as follows:

68 Received Jan. 25, 1922, Radio Service, N. Y. Custom House.

Received Jan. 23, 1922, Radio Service, N. Y. Custom House.

Applicant's Description of Apparatus.

Department of Commerce, Bureau of Navigation, Radio Service.

WGY

The following form of description of apparatus will be filled out in duplicate and forwarded to the radio inspector by each applicant for a license for apparatus for radio communication of any class (ship or land), except amateur stations (general or restricted) for which Form 762 is provided. The inspector, if necessary, will then arrange for an inspection of the station, or, when feasible, the inspector may accompany the applicant and make the inspection during the filling of this form.

Where the form calls for a statement of details of apparatus with which the station is not equipped, the applicant will please draw a line through the space provided for the appropriate answer.

The information is desired primarily as the basis of the description of the apparatus to be inserted in the license, but many of the details are desired to facilitate the classification and particularly the inspection of stations, and will not, of course, be incorporated in the license. This form when filled will not be open to public inspection.

NOTICE.—This Form Must be Submitted in Duplicate to the Proper Radio Inspector.

General Specifications of Station.

Name of applicant:[1] General Electric Company.

Address:[2] Schenectady.

A citizen of the State of or a company incorporated in the State of New York.

Name and address of *owner* of radio apparatus: Same as above.

If ship station—Name of ship: ——. Owner of ship: ——. Type of vessel: ——. Official number: ——. International signal code letters: ——. Home port (where permanent document issues): ——. Average speed of vessel (nautical miles): ——. Number of persons in crew: ——. Number of passengers vessel is licensed to carry: ——. Is vessel subject to the Act of June 24, 1910, as amended by the Act of July 23, 1912? ——.

If land station—Coast or inland? Inland. Location—State: New York. County: Schenectady. City or town: Schenectady. Street: River Road. No.: 1. Exact latitude, North: 42°, 50′, 00″; Longitude, West: 73° 54′ 30″.

Class of license desired (see regulations): Broadcasting. Nature of service: Broadcasting.

Specific hours open to public service: ——.

If limited station—Corresponds only with (state names of land stations, names of ships or lines of ships): ——.

Transformer input (normal conditions): 1½ K. W.

Approximate day-transmitting range (nautical miles) with average ship: ——; with similar land stations: 200 miles.

Primary Source of Power Supply.

Engine—Type and horsepower: ——.

Electric power—Source and available K. W.: Factory Mains. Is power continuously available? Yes.

Ship or Coast Charges.

(State class of service, such as North and South American or Transoceanic.)

—— per word: ——; minimum per radiogram: ——.
—— per word: ——; minimum per radiogram: ——.
—— per word: ——; minimum per radiogram: ——.

Relay charges: ——.

Make and type of radio system to be used: General Electric vacuum tube telephone transmitter.

Type of spark gap (plain, rotary synchronous, quenched, etc.): ——.

Approximate spark frequency (pitch of note) per second: ——.

Type and make of receiving apparatus (conductive or inductive coupling, etc.): Inductive.

Type of detector: Vacuum tube.

Wave length range of receiving system: From 150 meters to 300 meters.

Antenna.

Type of antenna (T, ⅂, umbrella, fan, etc.): Multiple Tuned.

Masts—Number: 2. Steel or wood? Steel. Other supports: None.

Essential dimensions—Maximum height above ground or water: 110 ft., above counterpoise. Length of horizontal part: 300 ft. Length of vertical part (including lead-in): 100 ft. Total length measured from apparatus: 115 ft. Length of ground connection: 15 ft. Fundamental wave length: 275 meters.

Other essential dimensions: 3 multiple tuning points.

Number of wires: 2. Size and kind of wire used: 7 #18. Spacing between wires: 20′.

Insulators—Material: Porcelain. Sizes: Diam. 4½″x30″ long with 15″ shield. Location: One at each bridle.

Ground connection—Type: Counterpoise.

Lightning protective switch—Type: Outdoor disconnecting. Location: Outside Bldg. How operated: Manually.

Remarks: ——.

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[1] Person, company, or corporation controlling and operating station and responsible, under the law, for operation and radio accounts.

[2] Show address of office to which should be sent communications concerning radio accounts and operation of station.

69 Auxiliary Apparatus (If Ship Stations).

Type and make: ——. Wave length: —— meters.

Source of power: ——. Normal day range (nautical miles) with ships: ——.

Plain aerial or coupled circuits? ——. Condenser in aerial circuit? ——.

Normal Wave Length and Other Wave Lengths Applied For.

(Underscore Normal.)

See letter attached.

Sending Wave Length.	Antenna Current.	Logarithmic Decrement.
... meters	.....	.....
360 meters	3 amps. per le g.	.....
... meters	.....	.....
... meters	.....	.....

If public service coast station, the station insures rapid exchange with land wire stations as follows:

Company: ——. Place: ——. By direct wire or telephone? ——.

Company: ——. Place: ——. By direct wire or telephone?

Number of operators required—First grade: ——. Second grade: ——. Others: ——.

Power Supply to Transmitter.

(*a*) Motor generator:

Motor.	Generator.
Voltage—A. C. or D. C. and cycles: AC-60.	Volts (rated) and cycles: 220-60.
H. P. (rated): 30 k. v. a.	K. W. (rated): ——.
Speed: 1750.	K. V. A. (rated): 30 k. v. a.
Location: On floor below transmitter.	
Remarks: ——.	

(b) Power-measuring instruments: Plate ammeter 2 amps.

Type, make, range, etc.: Line voltmeter 250 v. Filament Voltmeter 30 v. (All G. E. make)

Motor starter—Direct or distant control? Distant. Are motor field rheostat and generator field rheostat provided? Yes.

(*c*) Storage battery:
Make: ——. Type: ——.
Capacity (ampere hours): ——. Number of cells: ——. Location: ——.
(*d*) Internal-combustion engine:
Make: ——. Type: ——.
K. W. of generator (rated): ——. Location: ——.

Radio Apparatus.

(*a*) Transmitter:
Is proper means provided for reducing the range of the station as required by the London Convention? Yes.
Condenser in aerial circuit for No. meters, —— meters.
Coupling—Inductive or conductive? Inductive. Type of primary condenser: No condenser.
(*b*) Receiver:
Is secondary circuit tuned or untuned? Tuned. Are complete duplicate receivers installed? No.
Are tuning positions for 300 meters and 600 meters plainly marked on apparatus? Yes.
Method used for disconnecting receiver when transmitting (hand switch or automatic "break"): Hand switch.
Was the station in actual operation on or prior to August 13, 1912? No.
Signature of applicant: GENERAL ELECTRIC COMPANY,
By [1]E. P. EDWARDS,
Mgr. Radio Dept.

[1] For signature of an *official*, if the applicant is a company or corporation.

Instructions to Radio Inspectors.

Send out this form in triplicate—one for the applicant's files if he desires it. When received back, fill in the following; preserve one copy for your records and forward the original to the Commissioner of Navigation with report and recommendation.
Received by (inspector): Arthur Batcheller, New York. Date: Jan. 25-22.
Date of inspection of station: ——. Inspected by: ——.

Report and Recommendation.

Recommended provisional limited commercial license be issued for broadcasting service only, and on a wave length of 360 meters.

ARTHUR BATCHELLER,
U. S. Radio Inspector.

The license, when approved by the Secretary of Commerce, will be forwarded to the inspector for delivery to the applicant. The inspector will then fill in from the license the following on his file copy:

Class of license: ——. Serial No.: ——. Date of delivery to applicant: ——.

Pursuant to this application the following license was issued to the General Electric Company on February 4, 1922:

70 Provisional.

Copy.

No. 285.

License for Land Radio Station.

Class 2—Limited Commercial.

Department of Commerce,

Bureau of Navigation

Radio Service

Pursuant to the act to regulate radio communication, approved August 13, 1912, General Electric Company, a citizen of the State of ——, a company incorporated under the laws of the State of New York, having applied therefor, is hereby granted by the Secretary of Commerce for a period of three months on and subject to the restrictions and conditions hereinafter stated and revocable for cause by him, this License to use or operate the apparatus for radio communication (identified on the schedule hereinafter) for the

purpose of transmitting to and receiving from ship stations and other land stations public correspondence, Government and service correspondence, and distress signals and messages, at rates of compensation not in excess of those fixed by the international agreement to which the Government of the United States has adhered, which have been submitted to and approved by the Secretary of Commerce, as included in the schedule hereinafter, or for the purpose of conducting experiments for the development of the science of radio communication or the apparatus pertaining thereto, to carry on special tests, using any amount of power or any wave lengths, at such hours and under such conditions as will insure the least interference with the sending or receipt of commercial or Government radiograms, of distress signals and radiograms, or with the work of other stations, the purpose of the station being designated by the classification at the head of this License.

2. Public correspondence or limited commercial correspondence authorized by this License shall be limited to certain stations, ships or lines of ships named hereinafter, which designation is authorized in view of the nature of the service and is independent of the radio system employed.

3. The use or operation of apparatus for radio communication pursuant to this License shall be subject also to the articles and regulations established by the International Radiotelegraphic Convention, ratified by the Senate of the United States and caused to be made public by the President, and shall be subject also to such regulations as may be established from time to time by authority of subsequent acts and treaties of the United States, in so far as they apply to the class of station indicated by this License.

4. The authority conferred by this License is sub-
71 ject to the provisions of the act of February 4, 1887, entitled "An Act to regulate commerce," as amended by the act of June 18, 1910, so far as the Licensee may be within the operation of said act, and except as provided in the act of August 13, 1912, or in the International Radiotelegraphic Convention and regulations made part thereof, the station shall transmit all messages offered by those who tender lawful rates on equal terms without discrimination, whether as regards rates, order of transmission, or otherwise.

5. The Licensee shall render to the Secretary of Commerce such accounts as the Secretary of Commerce shall direct in respect of all charges due or payable under the International Radiotelegraphic Convention in respect of messages exchanged between the station hereby licensed and other stations and shall pay to the Secretary of Commerce, at such times and in such manner as the Secretary of Commerce shall direct, all sums which shall be due from the Licensee under such accounts.

6. The apparatus shall at all times while in use and operation be in charge or under the supervision of a person or persons licensed for that purpose by the Secretary of Commerce, and the operator of the apparatus shall not willfully or maliciously interfere with any other radio communication.

7. The station shall give absolute priority to signals and radiograms relating to ships in distress, shall cease all sending on hearing a distress signal; and, except when engaged in answering or aiding the ship in distress, shall refrain from sending until all signals and radiograms relating thereto are completed.

8. The station shall use the minimum amount of energy necessary to carry out any communication desired, except in case of signals or radiograms relating to vessels in distress.

9. The station shall not use a transmitter during the first 15 minutes of each hour, local standard time, except for distress signals, whenever the Secretary of Commerce by notice in writing shall require it to observe a division of time, pursuant to the Twelfth Regulation of the act of August 13, 1912.

10. The President of the United States in time of war or public peril or disaster is authorized by law to close the station and cause the removal therefrom of all radio apparatus or may authorize the use or control of the station or apparatus by any department of the Government upon just compensation to the owners.

11. The Secretary of Commerce and Collectors of Customs or other officers of the Government authorized by him may at all reasonable times enter upon the station for the purpose of inspecting and may inspect any apparatus for

radio communication of such station and the operation and operators of such apparatus.

12. The apparatus shall not be altered or modified in respect of any of the particulars mentioned in the following schedule, except with the approval of the Secretary of Commerce.

72 Schedule of Station and Apparatus.

Name of owner, General Electric Company.

Location: State, New York; County, Schenectady.

City or town, Schenectady; Street, River Road; No. 1.

Geographical location: Latitude, N. 43° 50′ —″; Longitude, W. 73° 54′ 30″.

This station is licensed for communication only with the following land station ships, or lines of ships:

This station is licensed for broadcasting of music and like matter only, on the wave length of 360 meters.

Should this station interfere with another station performing similar service or another station performing similar service interfere with this station it may be necessary to require a division of time between the stations affected.

One commercial second class operator or higher required.

Specific hours during which the station may / must be open to service (local standard time): ——.

Power: Transformer input, 1500 Watts.

Normal day range in nautical miles, 200 miles.

Time and method, if any, of sending time signals and hydrographic and meteorological radiograms: ——.

Call letters, WGY.

——; Coast charges: per word ——, minimum per radiogram ——.

——; Coast charges: per word ——, minimum per radiogram ——.

——; Coast charges: per word ——, minimum per radiogram ——.

Radiotelegraphic system employed, General Electric VT telephone.

Characteristics of transmitting system:

Type of spark gap, none.

Approximate spark frequency, ——.

Wave length range of receiving system: From 150 meters to 3000 meters.

Antenna: Number of masts 2, Height, ——.

Type of aerial, Multiple tuned T.

Wires: Number, 2; Size and kind, 7/18 PB.

Essential dimensions: Maximum height above water, 110 feet; Length of horizontal part, 3000 feet; Length of vertical part, 100 feet; Total length measured from apparatus, 115 feet; Length of ground connection, 15 feet; Fundamental wave length 275 meters.

Wave Lengths.

The normal sending and receiving wave length shall be 360 meters.

If the station be classified as a coast station it shall be prepared to transmit or relay distress calls or mes-
73 sages using the distress wave length as provided by the International Radiotelegraphic Convention in force.

In view of special conditions the station is authorized to use for communication exclusively with stations licensed by the United States the following additional wave lengths under 600 or over 1,600 meters:

Meters, 360; Meters, ——; Meters, ——; Meters, ——;

The energy, if radiated by the transmitter in two or more wave lengths as indicated by a sensitive wave meter, shall not in any one of the lesser waves exceed 10 per cent of that in the greatest; and the logarithmic decrement per complete oscillation in the wave trains shall not exceed two-tenths, except when sending signals or messages relating to vessels in distress.

Sending wave length.	Antenna current (amperes).	Logarithmic decrement.	Reading of wave meter indicating instrument.* Principal wave.	Wave next in energy.
300 meters.....	.....	.....	.....	.....
600 meters.....	.....	.....	.....	.....
360 meters.....	Not ascertained.			
meters.....	360 meters for broadcasting music and like matter only.			
meters.....	.....	.....	.....	.....
meters.....	.....	.....	.....	.....

*Type of indicating instrument, ——.

The station insures rapid exchange with land wire stations at

.....

.....

(Company) (Location telegraph office)

.....

(Company) (Location telegraph office)

in the following manner: ——.

Satisfactory proof has been furnished that the station was actually operating August 13, 1912.

This License will expire on the 3rd day of May, 1922.

S. W. STRATTON,
Acting Secretary of Commerce.

[Seal of Department of Commerce.]

D. B. CARSON,
Commissioner of Navigation.

Washington, D. C., February 4, 1922.

Inspections.

Date.	Inspector.	Remarks.
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

73½ The following is an agreed statement of the licenses which appear here in the record and which issued to the General Electric Company, Station W G Y, by the Department of Commerce, pursuant to applications made by the General Electric Company. This statement indicates the date of each license, the duration of each license and the power, wave length and class of service licensed. These licenses were issued under the authority of the Radio Act of 1912, and were prior to the enactment of the Radio Act of 1927.

Date of license.	Class of service.	Power (watts).	Wave length.	Duration of license.
February 4, 1922.	Limited Commercial	1500	360 meters	May 3, 1922
April 24, 1922.	Limited Commercial	1500	300 meters 600 360	July 23, 1922
June 19, 1922.	Limited Commercial	1500	300 meters 600 360 485	September 18, 1922
September 19, 1922.	Limited Commercial	1500	300 meters 600 360 485	December 18, 1922
September 27, 1922.	Class B, Broadcasting.....	1000	400 meters 485	December 26, 1922
December 27, 1922.	Class B, Broadcasting.....	1000	400 meters 485	March 26, 1923
March 17, 1923.	Class B, Broadcasting.....	1000	400 meters 485	June 16, 1923
May 21, 1923.	Class B, Broadcasting.....	1000	300 meters 600 380	August 20, 1923

August	21, 1923.	Broadcasting	1000	300	meters	November	20, 1923
		Development		600			
				380			
November	15, 1923.	Broadcasting	1000	300	meters	February	14, 1924
		Development		600			
				380			
February	11, 1924.	Broadcasting	1000	300	meters	May	10, 1924
		Development		600			
				380			
May	1, 1924.	Broadcasting	1000	300	meters	July	30, 1924
		Development					
July	18, 1924.	Broadcasting	1000	300		October	17, 1924
		Development		600			
				380			
October	9, 1924.	Broadcasting	1000	300		January	8, 1925
		Development		600			
				380			
April	24, 1925.	Broadcasting	2000	600		July	23, 1925
		Development		379.5			
July	27, 1925.	Broadcasting	2000 to	600		October	26, 1925
		Development	5000	379.5			

Date of license.	Class of service.	Power (watts).	Wave length.	Duration of license.
October 26, 1925.	Broadcasting	2000 to 600		January 25, 1926
	Development	5000	379.5	
January 28, 1926.	Broadcasting	2000 to 600		April 27, 1926
	Development	5000	379.5	
July 19, 1926.	Broadcasting	....	379.5	3 months
	Development			
October 16, 1926.	Broadcasting	....	379.5	3 months
	Development			
January 22, 1927.	Broadcasting	....	379.5	3 months
	Development			

Copies of the applications and licenses referred to above were filed by the Federal Radio Commission with the clerk of this court and are documents 1 to 41 inclusive, and 44 and 45 of the record in this case.

On the following indicated dates the General Electric Company executed the following waivers:

74 No. 42.

Place: Schenectady, New York,
Navigation. Date: January 17, 1927.

1927, Jan. 19, AM. 8.59.

As required by the Joint Resolution of Congress approved December 8, 1926, and as a part of the application for license for a WGY Broadcasting radio station at
Class of station
Schenectady, New York hereto attached, the applicant
Location of station
hereby waives any right or any claim of right, as against the United States, to any wavelength, or to the use of the ether in radio transmission, because of previous license to use the same or because of the use thereof.

Signature: GENERAL ELECTRIC COMPANY,
By M. F. WESTOVER,
Secretary.

75 No. 43.

Place: Schenectady, New York,
Date: January 10, 1927.

As required by the Joint Resolution of Congress approved December 8, 1926, and as a part of the application for license for a WGY Broadcasting radio station at
Class of station
Schenectady, New York hereto attached, the applicant
Location of station
hereby waives any right or any claim of right, as against the United States, to any wavelength, or to the use of the ether in radio transmission, because of previous license to use the same or because of the use thereof.

Signature: GENERAL ELECTRIC COMPANY,
By W. W. TRENCH,
Asst. Secretary.

The foregoing waiver is signed under protest and in executing the same, the applicant expressly reserves all rights.

GENERAL ELECTRIC COMPANY,
By W. W. TRENCH,
Asst. Secretary.

Received Jan. 11, 1927, 9 A. M., Radio Office, New York, N. Y.

A bulletin of the Department of Commerce dated March 1, 1922, shows that the General Electric Company shared a wave length of 360 meters with 66 other stations. (R. Doc. 47).

76 Federal Radio Commission, No. 47.

Copy.

Radio Service Bulletin.

Issued Monthly by Bureau of Navigation, Department of Commerce.

Washington, March 1, 1922—No. 59.

Pages 13 and 14.

List of Stations Broadcasting Market or Weather Reports (485 *Meters*) *and Music, Concerts, Lectures, etc.* (360 Meters), (March 10, 1922).

Owner of station.	Location of station.	Wave lengths.	Call signal.
General Electric Co.,	Schenectady, N. Y.	360	WGY

(together with 66 other stations.)

A bulletin issued by the Department of Commerce, dated June 30, 1923, shows on page 27 thereof that Station W G Y of the General Electric Company, and Station W H A Z of the Rensselaer Polytechnic Institute were at that time operating on a frequency of 380 meters. (R. Doc. 46)

77 Federal Radio Commission, No. 46.

Copy.

Department of Commerce, Bureau of Navigation, Radio Service.

Commercial and Government Radio Stations of the United States.

Edition June 30, 1923.

Page 27.

Stations Broadcasting Market or Weather Reports, Music Concerts, Lectures, etc.

Call signal.	Owner of station.	Location of station.	Power.	Wave length.	Frequency.
WGY..	General Electric Co..	Schenectady, N. Y..	1000	380	790
WHAZ.	Rensselaer Polytechnic Institute.	Troy, N. Y..... ..	500	380	790

On April 5, 1927, the Federal Radio Commission issued its General Order No. 5 as follows: (R. Doc. 48)

78 Federal Radio Commission, No. 48.

3.

General Order No. 5.

April 5, 1927.

Extension of Broadcast Licenses.

On Sunday April 24, at 11:59 P. M., terminates the period of sixty days during which, under Section 40 of the Radio Act of 1927, no holder of a license or an extension thereof issued by the Secretary of Commerce under the Act of August 13, 1912, is subject to the penalties provided in the Radio Act of 1927 for operating a station without a license.

The Federal Radio Commission will issue a temporary permit to operate a radio broadcasting station, good only until final action is taken by the Commision on the application for license, to each holder of a license or an extension thereof from the Secretary of Commerce under the Act of August 13, 1912, whose application for a license

under the Radio Act of 1927 has been received by the Federal Radio Commission on or before April 24, 1927, and such temporary permit shall, until withdrawn, be considered as having the force and effect of a license in so far as the penalties provided in the Radio Act of 1927 are concerned.

After April 24, 1927, any person operating a radio broadcasting station otherwise than under the authority of such a temporary permit or a license issued by the Federal Radio Commission will be deemed by the Commission to be operating a broadcasting station without a license.

On April 14, 1927, the General Electric Company made the following application for a radio station license: (R. Doc. 49)

79 Federal Radio Commission, No. 49.

Copy.

Radio Division, 1927 Apr. AM 9 56.

Official No. 264.

Form No. 1.

United States of America, Federal Radio Commission.

Application for Radio Station License (Other Than Ship and Amateur).

(Submit in duplicate to District Supervisor of Radio. Swear to one copy.)

To the Federal Radio Commission:

1. Name of applicant: General Electric Company.
2. Post office address: State, New York; City, Schenectady; Street, River Road; Number, 1.
3. Citizenship: ——.
4. If a corporation, company, or association:

(*a*) Organized under laws of State of New York.

(*b*) May one-fifth, or more, of capital stock be voted by an alien or his representative or by a foreign government or the representative thereof? No.

(*c*) State name and position of any director or officer who is an alien: None.

(*d*) If applicant is a subsidiary, state name and address of parent company: No.

5. Is the applicant the representative of an alien or foreign government? No.

6. Has the applicant, since February 23, 1927, been found guilty by any Federal Court of unlawfully monopolizing, or attempting to unlawfully monopolize, radio communication through control of manufacture or sale of radio apparatus, exclusive traffic arrangements, or any other means, or by unfair methods of competition? No.

7. Description of transmitting apparatus:

(*a*) Spark apparatus: Make, ——; Type, ——; Input power to transformer, ——.

(b) Arc apparatus: Make, ——; Type, ——; Power, ——.

(*c*) Tube apparatus: Make, General Electric; Type, Special radio telephone; Output power of oscillator or amplifier tube, Approximately 100 kilowatts; C. W., I. C. W., or phone? Phone; Electron tubes, number of, Five
80 type HT-1; Oscillators: Number of 2 type HT-1; Plate current, 11 amperes; Plate voltage, 12,500 volts; Modulators: Number of, 3 type HT-1; Plate current, 10½ amperes; Plate voltage, 12,500 volts; Filament voltage, 33 volts; Filament current, 235 amperes each.

8. Location of transmitter: State, New York; County, Schenectady; City or town, South Schenectady; Street, Mariaville Road; No., —.

9. Was station constructed or was the construction of the station continued after February 23, 1927? No.

10. The class of license requested to be issued to the applicant is Broadcasting (Broadcasting, point to point public or private, coastal, experimental).

11. Time, wave length or frequency, and power requested are as follows:

(*a*) Time (Specify the days of the week and the hours): It is believed that it will be in the public interest *of* permit WGY to operate at any time day or night, and full time is requested.

(*b*) Wave length: 379.5 meters (frequency of 790 kilocycles).

(*c*) Maximum power: 200 watts.

12. If broadcasting station:

(*a*) During the last preceding year—

(1) What wave lengths have been used? 379.5 meters.

(2) What power output has been employed? 56 kilowatts.

(3) What days of the week and at what hours did the station regularly operate during the year?

Sunday—10:30 A. M. until noon, 3 P. M. until 6 P. M., 7:30 P. M. until 11 P. M.

Monday—11:55 A. M. until 12:40 P. M., 2 P. M. until 3 P. M., 6 P. M. until 7:30 P. M.

Tuesday—11:55 A. M. until 12:40 P. M., 2 P. M. until 3 P. M., 6 P. M. until 11:30 P. M.

81 Wednesday—11:55 A. M. until 12:40 P. M., 6 P. M. until 10:30 P. M.

Thursday—11:55 A. M. until 12:40 P. M., 2 P. M. until 3 P. M., 6 P. M. until 12:30 A. M.

Friday—11:55 A. M. until 12:40 P. M., 2 P. M. until 3 P. M., 6 P. M. until 11:30 P. M.

Saturday—11:55 A. M. until 12:40 P. M., 6 P. M. until 12 P. M.

In addition to the above regular schedule, there were many special schedules for football, baseball, politics, etc.

(4) What was the total number of hours the station operated during the year? 2171 hours, 34 minutes.

(5) Was the station connected by land wires to any other station? Yes. Connection regularly to four stations, one each in New York City, Syracuse, Rochester & Buffalo.

(*b*) What service is proposed to be rendered? It is proposed to continue rendering the best broadcasting service, technically and generally, which the state of the art will admit. This will now include weather, markets, farms and stock reports; church services of all denominations desiring to broadcast; agricultural programs; political and governmental addresses; and local musical programs in addition to the National Broadcasting Company's net work program from New York City and elsewhere.

(*c*) Why will the operation of the station be in the public convenience, interest, and necessity? The population within 100 miles of Schenectady exceeds 1,400,000. This community including Albany (New York State capital),

Troy, Amsterdam, Utica, and many villages and rural sections, has depended almost entirely on WGY during the past five years for radio programs. The New York City, Boston, Springfield and Buffalo stations are not well received in this vicinity. Many more distant listeners have depended on WGY for a comparatively reliable program source. Public interest has been clearly indicated in listeners' letters commenting on WGY's services in broadcasting political and educational talks, police reports, music and entertainment of varied character so selected that they would fill the needs of our comparatively large rural audience which is especially dependent on radio during leisure hours. WGY has the resources of the research laboratories of the General Electric Company and is used as a developmental station for testing new inventions and ideas. Among the major improvements developed in connection with WGY are: higher powered transmitters; large vacuum tubes; condenser microphones; accurate maintenance of assigned frequency (WGY is the oldest Bureau of Standards standard frequency station); short wave developmental broadcasting including a 32.77 meter, a 26.8 meter, and a 22 meter transmitter operating on intermittently regular schedules; development of means for improving audio frequency characteristics bettering the quality of broadcasting; antenna design. Thus, WGY has assisted in designing transmitters for other stations desirous of taking advantage of current developments. It is believed that because of its part in the development of the radio art and its service to broadcast listeners, the WGY station activities could not be discontinued without imposing a real public hardship.

(*d*) Location of studios: The main concert studio and auxilliary speaker's studio with waiting and control rooms are at Schenectady in a new International General Electric building located within one half mile of the railroad station and accessible to all parts of the city through street car service passing the door. Wire connections bring programs from four hotels in Schenectady and Albany, 18 different churches, one theatre, the State Capitol, the State Armory and several halls. In addition, WGY takes programs from Buffalo, Rochester, Syracuse, Ilion and Utica and regularly sends programs to associated stations in Syracuse, Rochester and Buffalo.

(*e*) Will station be connected by land wires to other stations? Yes.

82 (*f*) Will the applicant sell time? Yes to some extent.

(*g*) If applicant does not propose to sell time, how will station be supported? By the General Electric Company.

(*h*) State minimum number of hours station will be operated during each quarter: Approximately 500 hours.

13. If point to point station, state names of stations with whom it is proposed to communicate: ——.

14. If coastal public-service station, state hours during which the station will be open to public service and the minimum and other rates: ——.

15. The applicant waives any claim to the use of any particular frequency or wave length or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests a radio station license in accordance with this application.

Dated this 14th day of April, 1927.

GENERAL ELECTRIC COMPANY,
Applicant.

By W. W. FRENCH,
Asst. Secretary.

STATE OF NEW YORK,
County of Schenectady, ss:

W. W. French, being first duly sworn, upon his oath deposes and says that he is the Assistant Secretary of General Electric Co. (If applicant is not an individual, insert "agent of") above-named applicant and that the facts stated in the foregoing application are true of his own knowledge.

W. W. FRENCH.

Subscribed and sworn to before me this 14th day of April, 19—.

ARTHUR WILLEY,
Notary Public.

Radio Supervisor's Report.

April 16, 1927.

Application received: U. S. Supervisor of Radio, Department of Commerce, Received Apr. 16, 1927, New York, N. Y.
Remarks: Forwarded for action.

HARRY L. BOGARDUS,
Actg. U. S. Supervisor of Radio.

On April 21, 1927, the Federal Radio Commission transmitted the following letter, authorizing the General Electric Company to operate under the conditions stated therein. (R. Doc. 50)

83 Federal Radio Commission, No. 50.

Copy.

Federal Radio Commission, Washington, D. C.

Commissioners: Ira E. Robinson, Chairman; Eugene O. Sykes, Vice Chairman; Orestes H. Caldwell, Sam Pickard, Harold A. Lafount. Carl H. Butman, Secretary.

April 21, 1927.

General Electric Company,
1 River Road,
Schenectady, N. Y.

SIR:

Your application for the renewal of your radio broadcasting station license is at hand. Pending final action on the same, you are hereby authorized to operate your station in accordance with the radio law, approved February 23, 1927, using a power output of 56,000 watts and a frequency of 790 kilocycles (379.5 meters) until further orders are received by you from this Commission.

Until a more definite method of measurement is adopted the power output will be taken as one-half the power (volt-amperes) in the plate circuit of the oscilator, or in the plate circuit of the power amplifier tube if one is used.

This extension is not to be considered as a finding that your operation is in the public interest, convenience, or necessity.

This will be determined only after full consideration of the facts.

FEDERAL RADIO COMMISSION.

——— ———,

Chairman.

On June 1, 1927, the following license was issued to Station W G Y: (R. Doc. 51)

84 Federal Radio Commission, No. 51.

Copy.

Form No. 2.

Official No. 264.

United States of America, Federal Radio Commission.

Radio Station License (*Other Than Ship*).

Class: Broadcasting. Call Letters: WGY.

Subject to the provisions of the Radio Act of 1927 and the conditions mentioned in this license, General Electric Company is hereby authorized to use and operate the radio apparatus herein described for the transmission of radio communications for the term ending July 31, 1927, unless this license is sooner suspended or revoked.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies or wave lengths specified herein, beyond the terms hereof, nor in any other manner nor at any other time or place than authorized herein. Neither the license nor right granted herein shall be assigned or otherwise transferred in violation of the Radio Act of 1927, and this license is expressly subject in terms to the right of use or control conferred by Section 6 of said Radio Act.

The apparatus authorized to be used and operated by the licensee is located in the State of New York, County of

Schenectady, City or town of South Schenectady, Mariaville Road, Street number —, and is described as follows:

General Electric V. T. Telephone.

85 The nature of the service authorized to be rendered under this license is as follows: Broadcasting.

The authorized frequencies or wave lengths, maximum power, call letters, and time of operation are as follows:

Frequency: 790 kilocycles, or wave length 379.5 meters.

Power: Output 30,000 watts.

Call letters: WGY.

Time of operation: Shares time with station WHAZ.

As one of the conditions of this license, the licensee is required during the term of this license to render adequate service of the character above specified during the authorized time of operation and a violation of this condition will be considered a ground for the suspension or revocation of this license.

This license is issued under and in accordance with the Radio Act of 1927, and all of the terms and conditions thereof are made a part hereof as though specifically set out in full herein.

Dated this first day of June, 1927.

[SEAL.] FEDERAL RADIO COMMISSION,

By —— ——,

Chairman.

MS.

On May 21 and May 28, 1927, the Commission issued the following General Orders: (R. Docs. 52 and 53)

86 Federal Radio Commission, No. 52.

General Order No. 11.

May 21, 1927.

The Federal Radio Commission hereby orders that all temporary permits to operate radio broadcasting stations under the terms of the Radio Act of 1927 shall terminate at three o'clock, local standard time, on the morning of Wednesday, June 1, 1927, and that thereafter all radio broadcasting stations subject to the provisions of the Radio Act of 1927 shall be operated solely in accordance

with the provisions of the licenses issued as of June 1, 1927, by the Federal Radio Commission.

* * * * * * *

The new licenses are all for sixty days, during which period the new allocations can be tested by actual practice. The law provides that any broadcaster who is dissatisfied with his allocation may have a public hearing before the Commission, and at such a hearing his claim for a specific frequency or power will be considered in all its relations.

The Commission recognizes that no scheme of re-allocation which does not at the very outset eliminate at least four hundred broadcasting stations can possibly put an end to interference. Accordingly, it regards the new allocations, not as creating in any sense an ideal broadcasting situation, but as providing for the first time a sound basis for radio service to the listener. With the cooperation of the public and the broadcasters, the Commission believes that it will be possible to improve conditions progressively by an orderly process of actual experience.

Until such experience has been gained, both the listeners and the broadcasters are urged to exercise patience. The listener will, of necessity, have to "re-log" his receiving set, and may find considerable difficulty in locating all the stations he desires to hear. The broadcasters will doubtless find that many of their listeners are at first somewhat bewildered by the changes in frequencies. It is the belief of the Commission, however, that within a very few weeks the material reduction of local or regional interference, the re-distribution of frequencies so as to clear most of the broadcasting channels, and the decrease of power for stations in the residential districts, will combine to render radio reception in general very much better than it has been in a long time.

Special attention is called to the fact that the Commission has no unused frequencies to allocate. Every broadcasting channel is filled to its apparent capacity, and in some cases possibly over-crowded. Accordingly, any listener who wants a different allocation of frequency or power for his favorite station, or any broadcaster who seeks increased facilities for service, must be prepared to

show specifically what other station should be required to give up its frequency, or have its power reduced, in order to make possible the desired re-allocation.

87 Federal Radio Commission, No. 53.

Federal Radio Commission, Washington, D. C.

General Order No. 13.

May 28, 1927.

In consideration of the fact that a certain amount of time is required in many cases for making the changes of equipment required by changes of station frequency, and for securing suitable control equipment to maintain frequency without serious variation, the Federal Radio Commission hereby amends General Order No. 11, dated May 21, 1927, to read as follows:

"The Federal Radio Commision hereby orders that all temporary permits to operate radio broadcasting stations under the terms of the Radio Act of 1927, shall terminate at 3 o'clock, local standard time, on the morning of Wednesday, June 15, 1927, and that thereafter all radio broadcasting stations subject to the provisions of the Radio Act of 1927, shall be operated solely in accordance with the provisions of the licenses issued as of June 1, 1927, by the Federal Radio Commission."

The Federal Radio Commission hereby orders that all licenses for the period of sixty days, issued as of June 1, 1927, shall not become effective until 3 o'clock, local standard time, on the morning of Wednesday, June 15, 1927, and shall continue in effect, unless previously revoked or modified by order of the Commission, for a period of sixty days after June 15, 1927.

The following documents constitute a self-explanatory record of the operations of Station W G Y under licenses issued by the Federal Radio Commission and include such licenses: (R. Docs. 54 to 59 inclusive).

88 Federal Radio Commission, No. 54.

Copy.

Radio Division, 1927, Aug. 11 AM. 10.16.
60 day license, out 8/17/—.

Official No. 264.

Call Letter: WGY.
Mail Address: General Electric Co., 1 River Road, Schenectady, N. Y.

United States of America, Federal Radio Commission.

Application for Radio Station License (Other Than Ship and Amateur).

(Submit in Duplicate to District Supervisor of Radio. Swear to One Copy.)

To the Federal Radio Commission:

The undersigned, having duly made application for a radio station license under date of April 14, 1927, as required by law, and having been granted a license, effective June 15, 1927, which license expires on August 15, 1927, hereby certifies that all the statements of fact contained in said application dated April 14, 1927, are true as of the date of signing this present application, except as noted herein; and the applicant herein certifies that he is the owner of the radio station described in said application, and hereby applies for a radio station license, to become effective August 15, 1927 with the frequency and power authorized for the use of such station in the license under which it is now operated.

It is understood that the filing of this application in no way estops the applicant from making application for any other frequency or power assignment he may desire, under the terms of the General Orders of the Federal Radio Commission, and that it does not preclude the Federal Radio Commission from ordering such changes in frequency, power or hours of operation as, under the law, it may find to be in public interest, convenience or necessity.

The applicant waives any claim to the use of any particular frequency or wave length or of the other as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests a radio station license in accordance with this application.

Dated this 8th day of August, 1927.

GENERAL ELECTRIC COMPANY,
Applicant,

By M. F. WESTOVER,
Secretary.

STATE OF NEW YORK,
County of Schenectady, ss:

M. F. Westover, being first duly sworn, upon his oath deposes and says that he is the Agent of (if applicant is not an individual, insert "agent of") above-named applicant and that the facts stated in the foregoing are true of his own knowledge.

M. F. WESTOVER.

Subscribed and sworn to before me this 8th day of August, 1927.

ARTHUR K. WILLEY, [SEAL.]
Notary Public.

Radio Supervisors's Report.

August 10, 1927.

Application received: U. S. Supervisor of Radio, Department of Commerce, Received Aug. 10, 1927, New York, N. Y.

Remarks: Forwarded for action.

HARRY L. BOGARDUS,
Acting U. S. Supervisor of Radio.

89 Federal Radio Commission, No. 55.

Copy.

Federal Radio Commission, Washington, D. C.

Commissioners: Ira E. Robinson, Chairman; Eugene O. Sykes, Vice Chairman; Orestes H. Caldwell, Sam Pickard, Harold A. Lafount. Carl H. Butman, Secretary.

Augus. 8, 1927.

General Electric Co.,
Radio Station WGY,
1 River Road,
Schenectady, N. Y. RC-3.

SIR:

Your license to operate your radio broadcasting station, which will expire in a few days, is hereby extended and renewed from its date of expiration until October 14, 1927, on which day it will terminate unless further extended or renewed by this Commission.

This extension or renewal is subject to all the terms and conditions of the now existing license.

[SEAL.] FEDERAL RADIO COMMISSION,
By W. H. G. BULLARD,
Chairman.

90 Federal Radio Commission, No. 56.

Copy.

Form No. 2.

OHC.

Official No. 264.

United States of America, Federal Radio Commission.

Radio Station License (Other Than Ship).

Class: Broadcasting. Call Letters: WGY.

Subject to the provisions of the Radio Act of 1927 and the conditions mentioned in this license, General Electric

Company is hereby authorized to use and operate the radio apparatus herein described for the transmission of radio communications for the term ending October 14, 1927, unless this license is sooner suspended or revoked.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies or wave lengths specified herein, beyond the terms hereof, nor in any other manner nor at any other time or place than authorized herein. Neither the license nor right granted herein shall be assigned or otherwise transferred in violation of the Radio Act of 1927, and this license is expressly subject in terms to the right of use or control conferred by Section 6 of said Radio Act.

The apparatus authorized to be used and operated by the licensee is located in the State of New York, County of Schenectady, City or town of South Schenectady, Street, Mariaville Road, number —, and is described as follows:

General Electric V. T. Telephone.

91 The nature of the service authorized to be rendered under this license is as follows: Broadcasting:

The authorized frequencies or wave lengths, maximum power, call letters, and time of operation are as follows:

Frequency: 790 kilocycles, or wave length 379.5 meters.

Power: Output 50,000 watts.

Call letters: WGY.

Time of operation: Shares time with WHAZ.

As one of the conditions of this license, the licensee is required during the term of this license to render adequate service of the character above specified during the authorized time of operation and a violation of this condition will be considered a ground for the suspension or revocation of this license.

This license is issued under and in accordance with the Radio Act of 1927, and all of the terms and conditions thereof are made a part hereof as though specifically set out in full herein

Dated this 15th day of September, 1927.

[SEAL.] FEDERAL RADIO COMMISSION,

By —— ——, *Chairman.*

92 Federal Radio Commission, No. 57.

Federal Radio Commission, Washington, D. C.

October 12, 1927.

General Order No. 18.

For the purpose of bringing the sixty-day license periods for broadcasting stations into conformity with the calendar months, all broadcasting licenses dated August 15, 1927, and issued for the period of sixty days to October 14, 1927, except as subsequently modified by Special Orders Nos. 79 to 128, inclusive, or by later licenses already issued, are hereby extended and continued in force until October 31, 1927, at which time new sixty-day licenses will be issued.

Special Orders Nos. 79 to 128, inclusive, remain effective as of the dates specified in such orders and until October 31, 1927, at which time new sixty-day licenses will be issued.

93 Federal Radio Commission, No. 58.

Copy.

Official No. 264.

Oct. 7, 1927.
Call Letter: WGY.
Mail Address: 1 River Road, Schenectady, N. Y.

United States of America, Federal Radio Commission.

Application for Radio Station License (Other than Ship and Amateur.)

(Submit in Duplicate to District Supervisor of Radio. Swear to one copy.)

To the Federal Radio Commission:

The undersigned, having duly made application for a radio station license under date of April 14, 1927, as required by law, and having been granted a license, effective June 15, 1927, which license was extended August 15, 1927,

until October 14, 1927, hereby certifies that all the statements of fact contained in said application dated April 14, 1927, are true as of the date of signing this present application, except as noted herein; and the applicant herein certifies that he is the owner of the radio station described in said application, and hereby applies for a further 60-day extension of radio station license, to become effective October 15, 1927, with the frequency and power authorized for the use of such station in the license under which it is now operated.

It is understood that the filing of this application in no way estops the applicant from making application for any other frequency or power assignment he may desire, under the terms of the General Orders of the Federal Radio Commission, and that it does not preclude the Federal Radio Commission from ordering such changes in frequency, power or hours of operation as, under the law, it may find to be in public interest, convenience or necessity.

The applicant waives any claim to the use of any particular frequency or wave length or of the other as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests a radio station license in accordance with this application.

Dated this 4th day of October, 1927.

By M. F. WESTOVER, *Applicant.*

STATE OF NEW YORK,
County of Schenectady, ss:

M. F. Westover, being first duly sworn, upon his oath deposes and says that he is Secretary, agent of (if applicant is not an individual, insert "agent of") above named applicant and that the facts stated in the foregoing are true of his own knowledge.

M. F. WESTOVER.

Subscribed and sworn to before me this 4th day of October, 1927.

ARTHUR K. WILLEY, [SEAL.]
Notary Public.

Radio Supervisor's Report.

U. S. Supervisor of Radio, Department of Commerce.

October 5, 1927.

Application received: Received Oct. 5, 1927.
Remarks: Forwarded for action.

HARRY L. BOGARDUS,
Actg. U. S. Supervisor of Radio.

94 Federal Radio Commission, No. 59.

Copy.

Form No. 2.

Official No. 264.

United States of America, Federal Radio Commission.

Radio Station License (Other Than Ship).

Class: Broadcasting. Call Letters: W G Y.

Subject to the provisions of the Radio Act of 1927 and the conditions mentioned in this license, General Electric Company is hereby authorized to use and operate the radio apparatus herein described for the transmission of radio communications for the term ending December 31, 1927, unless this license is sooner suspended or revoked.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies or wave lengths specified herein, beyond the terms hereof, nor in any other manner nor at any other time or place than authorized herein. Neither the license nor right granted herein shall be assigned or otherwise transferred in violation of the Radio Act of 1927, and this license is expressly subject in terms to the right of use or control conferred by Section 6 of said Radio Act.

The apparatus authorized to be used and operated by the licensee is located in the State of New York, County of Schenectady, City or town of South Schenectady, Street,

Mariaville Road, number —, and is described as follows: General Electric V. T. Telephone.

The nature of the service authorized to be ren-
85 dered under this license is as follows: Broadcasting.

The authorized frequencies or wave lengths, maximum power, call letters, and time of operation are as follows:

Frequency: 790 kilocycles, or wave length 379.5 meters.
Power: Output 50,000 watts.
Call letters: W G Y.
Time of operation: Unlimited.

As one of the conditions of this license, the licensee is required during the term of this license to render adequate service of the character above specified during the authorized time of operation and a violation of this condition will be considered a ground for the suspension or revocation of this license.

This license is issued under and in accordance with the Radio Act of 1927, and all of the terms and conditions thereof are made a part hereof as though specifically set out in full herein.

Dated this first day of November, 1927.

[SEAL.] FEDERAL RADIO COMMISSION,
By E. O. SYKES,
Vice Chairman.

The license of November 1, 1927, set forth above by its terms expired September 21, 1927, by General Orders Nos. 21, 22, 23, 25, 27, 33, 35, 38 and 44 of the Federal Radio Commission. The license period was extended until November 11, 1928. These orders are designated in the record as Documents 60 to 68 inclusive.

On January 14, 1928, the General Electric Company filed an application for renewal of its radio broadcasting station license (Station W G Y) as follows: (R. Doc. 69)

96 Federal Radio Commission, No. 69.

Copy.

Form No. 8.
Radio Division, 1928, Jan. 17, AM 9 40.
Call Letters W G Y. Frequency: ——. Power: ——.
Federal Radio Commission, Jan. 17, 1928.

United States of America, Federal Radio Commission.

#264.

Application for Renewal of Radio Broadcasting Station License.

(Submit in triplicate to District Supervisor of Radio. Swear to one copy.)

To the Federal Radio Commission:

1. Name of applicant: General Electric Company.

2. Post office address: State, New York; City, Schenectady; Street, River Road; Number 1.

3. Citizenship: ——.

4. If a corporation, company, or association:

(*a*) Organized under laws of State of New York.

(*b*) May one-fifth , or more, of capital stock be voted by an alien or his representative or by a foreign government or the representative thereof? No.

(*c*) State name and position of any director or officer who is an alien: None.

(*d*) If applicant is a subsidiary, state name and address of parent company: No.

(*e*) Has any change in ownership of this station occurred in the past 60 days? No.

5. Is the applicant the representative of an alien or foreign government? No.

6. Has the applicant, since February 23, 1927, been found guilty by any Federal Court of unlawfully monopolizing, or attempting to unlawfully monopolize, radio communication through control of manufacture or sale of radio apparatus, exclusive traffic arrangements, or any other means, or by unfair methods of competition? No.

7. Description of transmitting apparatus:

(*a*) Make: General Electric; Type, Special radio telephone; Maximum power, 150 Kw; Minimum, 25 KW, at 12,500 volts; Output power of oscillator or amplifier tube, ZT-1 15 KW as grid controlled amplifier Radio-crystal— 1-UX 214; 1-211; 1-204A; 2-851; 2-207; 6-ZT1. Electron tubes, number of Audio— 1-UX211 1-UV 851; 6-UV 207 50

KW operation. Oscillators: Number of 2-UV 207 Total plate current 1.4 amp. Total plate voltage 10,500. Modulators: Number of 6-UV 207. Total plate current 1.4 amp. Total plate voltage 10,500. Amplifiers: Number of 6-ZT 1. Total plate current 13 amp. Total plate voltage 12,500. Type of frequency control employed Automatic Piezo Crystal control, Temperature controlled. Make of frequency control General Electric, Spare Complete 12.5 KW transmitter with separate antennæ and power supply available.

(*b*) Has any change in equipment been made in the past 60 days? Yes, amplifer system and tubes.

97 8. Location of transmitter: State, New York; County, Schenectady; City or town, Near South Schenectady; Street, None; No., None.

(*a*) Approximate number of families within one mile of transmitter? 135. Two miles? 1605. Three miles? 5203.

(*b*) Location of studios: Studios located in new International General Electric building conveniently accessible railroad and to all parts of the city. Wire connections to four hotels, 16 churches, 2 theaters, State Capital, etc.

(*c*) Has any change in location of either transmitter or studio been made the past 60 days? No.

9. Specify actual periods station is operated:

(a)—

	A. M.	P. M.	Total daily hours.
Sunday	10:30–12:00	3:25-10:45	8 hrs. 50 min.
Monday	6:45– 8:00	12:30-50; 2:00-3:00; 6:00-11:00	8 hrs. 10 min.
Tuesday	8:30– 8:45	12:30-50; 2-3; 6-1 A. M.	10 hrs. 10 min.
Wednesday .	11:15–11:30	12:30-50; 6-11	7 hrs. 10 min.
Thursday ..	11:55–12:00	12:30-50; 2-2:40; 6-12:30	9 hrs. 20 min.
Friday		12:30-50; 2-3; 6-11	8 hrs. 10 min.
Saturday		12:30-50; 6:30-12	7 hrs. 40 min.
Total Weekly Hours.....			59 hrs. 30 min.

Every day excepting Sunday.

(*b*) Does station divide time, and if so with what station? No.

(c) Does station obtain programs from what is known as a "Chain"? Yes, two chains.

(*d*) Name of chains: N. B. C., Red Network and New York State chain, WFBL—WHAM—WMAK.

(*e*) What is total hours per week of chain pr[illegible]ms (i. e. programs, both paid or sustaining, which ar[illegible]uplicated by any other station)? Red Network, 21.7 hrs.; New York chain, 10.6 hrs.

(*f*) How are stations connected? Wire? Yes. Radio? No.

10. Under existing license:

(*a*) What frequency is used? Kilocycles? 790. Meters? 379.5.

(*b*) What power output is employed after 6 p. m.? 50 KW.

(*c*) What power output 6 a. m. to 6 p. m.? Usually employ 12.5 KW spare transmitter.

(*d*) Total number of hours station operated during past 12 months? 2582 hrs. 25 min.

(*e*) State minimum number of hours station will be operated each quarter, 690 hrs.

11. Attach printed program for last week.

98 12. Why will the operation of the station be in the public convenience, interest, and necessity? The population within 100 miles of Schenectady exceeds 1,400,000. This community, including Albany (New York State capital), Troy, Amsterdam, Utica, and many villages and rural sections, has depended almost entirely on WGY during the past six years for radio programs. The New York City, Boston, Springfield and Buffalo stations are not well received in this vicinity on account of fading. Many more distant listeners have depended on WGY for a comparatively reliable program source. Public interest has been clearly indicated in listeners' letters commenting on WGY's services in broadcasting political and educational talks, police reports, music and entertainment of varied character so selected that they would fill the needs of our comparatively large rural audience which is especially dependent on radio during leisure hours. WGY has the resources of the research laboratories of the General Electric Company and is used as a developmental station for testing new inventions and ideas. Among the major improvements developed in connection with WGY are: Higher powered transmitters; large vacuum tubes; condenser microphones; accurate maintenance of assigned frequency (WGY was the

senior Bureau of Standards standard frequency station); short wave developmental broadcasting including a 32.77 meter, and a 22 meter transmitter operating on regular schedules; development of means for improving audio frequency characteristics bettering the quality of broadcasting; antenna design. Thus, WGY has assisted in designing transmitters for other stations desirous of taking advantage of current developments. It is believed that because of its part in the development of the radio art and its service to broadcast listeners, the WGY station activities could not be discontinued without imposing a real public hardship.

(a) Average amount of time weekly devoted to following services: (1) Entertainment, 24.3 hrs.; (2) Religious, 3.5 hrs.; (3) Commercial (mainly 1 & 4) 22.6 hrs.; (4) Educational, 1.75 hrs.; (5) Agricultural, 3.25 hrs.; (6) Fraternal, — hrs.; (7) Weather & Market Repts. & News, 4.1 hrs.

(*b*) Is direct advertising conducted in interest of applicant? No; or others, No.

(1) Are merchandise prices quoted in interest of applicant? No; or others, No.

(*c*) Does or will applicant sell time? Yes.

(1) Average number of hours sold weekly before 6 p. m.? 9 hrs.; after 6 p. m.? 13.6 hrs.

(2) Average number of hours used weekly in interest of applicant? None directly.

(*d*) Average amount spent weekly for talent? $850.

(*e*) Total annual net income, exclusive of expense for talent?

12 (*e*) *Year* 1927, *WGY*

Total operating expenditures	$220,308
Talent expenses (included above)	43,764
Income commercial programs	37,850

December expenses estimated.

(*f*) If applicant does not propose to sell time, how will station be supported? By the General Electric Company.

13. Give names and classes of licensed operators in charge of station: Harry Sadenwater, Commercial Extra First Class; R. S. Hoff, Commercial First Class; C. B. Schou, Commercial First Class.

(*a*) Number of other employees? 17. Total weekly pay roll, $970.66.

14. Do you maintain continuous watch on ship calling channel during operative hours? Yes.

15. Does the applicant own or control any other broadcast station? Yes.

(*a*) State number and call letters of such stations? 2—KGO and KOA.

(*b*) Does applicant own or control any radio station other than broadcasting? Yes.

(*c*) Give number and type of any such stations: 13—Experimental.

(*d*) For what purpose are those stations used? Developmental and research work.

99 16. History of Station:

(*a*) Date of first license to broadcast: February 4, 1922.

(*b*) First frequency: 832.8; Wave length: 360 meters; Power: 1500 watts.

(*c*) List all changes in frequency and power authorized, with dates:

16 (*c*) May 3, 1922.—618.2 KC (485 meters) authorized for weather & market reports.

Sept. 27, 1922.—749.6 KC (400 meters) for programs and 618.2 KC for weather reports. Power changed to 1000 watts in the antenna.

May 21, 1923.—Assigned 790 KC—1000 watts.

Dec. 31, 1924.—Increased to 1500 watts.

Jan. 28, 1925.—Increased to 2000 watts.

Aug. 8, 1925.—Increased to 3000 watts.

Aug. 22, 24, 25, 1925.—Test programs 50KW.

Aug. 28, 1925.—Increased to 3000 watts.

Sept. 10, 1925.—Increased to 3500 watts.

Sept. 24, 25, 26, 1925.—Test programs 50 KW.

Sept. 30, 1925.—Increased to 4000 watts.

Oct. 3, 1925.—Authorized operate 50 KW Saturdays and Sundays.

Oct. 13, 1925.—Increased to 4500 watts.

Oct. 26, 1926.—Increased to 5000 watts.

May 8, 1926.—50 KW regular operation authorized.

June 1, 1927.—Power reduced to 30 KW.

Aug. 3, 1927.—Test programs authorized at 100 KW.

Sept. 1, 1927.—Regular programs authorized at 100 KW to Sept. 15.

Sept. 15, 1927.—Power increased to 50 KW.

(*d*) On what frequencies and with what power did station operate between July 1, 1926, and February 23, 1927? 790 Kilocycles, 50 KW.

17. The applicant waives any claim to the use of any particular frequency or wave length or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests a radio station license in accordance with this application.

Dated this 14th day of January, 1928.

GENERAL ELECTRIC COMPANY,
Applicant.

By: W. W. FRENCH,
Asst. Secretary.

STATE OF NEW YORK,
County of Schenectady, ss:

W. W. French, being first duly sworn, upon his oath deposes and says that he is the Assistant Secretary (if applicant is not an individual, insert "agent of") abovenamed applicant and that the statements in the foregoing application are true of his own knowledge, and those made on information and belief, he believes to be true.

W. W. FRENCH.

Subscribed and sworn to before me this 14th day of January, 1928.

[SEAL.] ARTHUR K. WILLEY,
Notary Public.

Radio Supervisor's Report.

Application received: Jan. 16, 1928.

Remarks (state any pertinent facts): Forwarded for action.

ARTHUR BATCHELLER,
U. S. Supervisor of Radio.

Pursuant to request of the Federal Radio Commission the General Electric Company transmitted the following letter and affidavit to the Commission: (R. Docs. 70 and 71)

100 Federal Radio Commission, No. 70.

Copy.

Federal Radio Commission, Aug. 20, 1928.

General Electric Company.

General Office: Schenectady, N. Y.

1 River Road,
Schenectady, N. Y., August 18, 1928.

Federal Radio Commission,
Washington, D. C.

GENTLEMEN:

As requested in your letter of August 13th, 1928, I am pleased to advise of the location of the studios from which station WGY regularly broadcasts programs, as follows:

Two studios at Schenectady, N. Y. Main studios.
NBC studios in New York City.
NBC studios in Washington.
WFBL studio, Onondaga Hotel, Syracuse, N. Y.
WHAM studio, Sagamore Hotel, Rochester, N. Y.
WMAK studio, Liberty Bank Bldg., Buffalo, N. Y.

Very truly yours,

MARTIN P. RICE,
Manager of Broadcasting.

M.P.R.:E.O.

101 Federal Radio Commission, No. 71.

Copy.

Federal Radio Commission, Aug. 20, 1928.

Federal Radio Commission, 71.

Station WGY is now broadcasting regularly the following hours of schedule after 7 P. M.:

Sunday, 3½ hours.
Monday, 5 hours.
Tuesday, 5 hours.
Wednesday, 4½ hours.
Thursday, 5½ hours.
Friday, 5 hours.
Saturday, 5 hours.

Station WGY has operated a total of 806 hours 22 minutes between 7 P. M. and midnight during the six months ending June 30th, 1928, of which 507 hours 28 minutes were national "chain" programs and 58 hours and 56 minutes were local "chain" programs (New York State Network).

Type of apparatus used to insure that frequency is kept constant?

Automatic quartz crystal control with automatic temperature regulation.

STATE OF NEW YORK,
County of Schenectady:

Martin P. Rice, being duly sworn, depises and says that the foregoing facts are true of his own knowledge and belief.

MARTIN P. RICE.

Subscribed and sworn to before me this 18th day of August, 1928.

ARTHUR K. WILLEY, [SEAL.]
Notary.

On August 22, 1928, the Commission issued its General Order No. 37: (R. Doc. 72)

102 Federal Radio Commission, No. 72.

Federal Radio Commission, Washington, D. C.

General Order No. 37.

Federal Radio Commission, 72.

At a session of the Federal Radio Commission held at its office, in Washington, D. C., on August 22, 1928.

It is ordered that in every case where the Commission, upon examination of any application for a construction permit, for a station license, for a renewal of a station license, or for modification of a station license, does not reach a decision that public interest, convenience or necessity would be served by the granting of such application.

1. The Secretary of the Commission shall forthwith notify the applicant to that effect and shall at the same time notify the applicant of the time and place for a hearing on such application, the time and place to be fixed as hereinafter directed.

2. Unless the Commission shall specifically provide otherwise, the place for such hearing shall be at the office of the Commission at Washington, D. C.

3. Unless the Commission shall specifically provide otherwise, the time for such hearing shall be at the hour of ten (10) o'clock a. m., on the first Tuesday falling after the lapse of a period of twenty (20) days from the date on which the Secretary shall mail such notification to such applicant.

4. No applicant will be heard unless ten (10) days or more prior to the date set for such hearing, he shall have communicated to the Secretary a written notice of his desire to be heard by the Commission, together with a statement of the approximate time which in his opinion the presentation of his case will require. Said notice and said statement may be communicated to the Secretary by telegraph.

103 5. Hearings shall commence at the hour of ten (10) o'clock a. m., on Tuesday of each week and shall continue throughout the week until the cases set for each

Tuesday have all been heard, continued, or otherwise disposed of.

6. Every applicant desiring a continuance of the hearing on his application shall, not later than the day prior to that on which such hearing is set, deliver to the Secretary a written motion to that effect (which motion may be made by telegraph) accompanied by a brief statement of his reasons in support of such motion. Such motion may be granted or denied by any member of the Commission, or if none of them is present at the office of the Commission, then by the Secretary; each action with respect to such a motion shall be reported to the Commission at its first meeting following such action.

7. The Commission may, of its own motion, continue any hearing to a later date.

8. Every person desiring that witnesses be summoned or that the production of books, documents, or papers be compelled shall make written application therefor to the Secretary on forms to be provided by the Secretary on request.

9. Evidence may be heard by any one or more of the members of the Commission. Where a hearing takes place before less than a quorum (i. e., three) of the Commission, the applicant shall, upon request duly made in the record, be entitled to present argument in support of his application before a quorum of the Commission.

10. Each case will be given a docket number and, so far as possible, such docket number shall be noted on all correspondence, papers or motions having to do with such case.

IRA E. ROBINSON,
Chairman.

The following orders of the Federal Radio Commission are self-explanatory: (R. Docs. 73, 74 and 78)

104 Federal Radio Commission, 73.

#149.

Federal Radio Commission, Washington, D. C.

August 30, 1928.

General Order No. 40.

At a session of the Federal Radio Commission held at its office, in Washington, D. C., on August 30, 1928.

The Commission has determined that the definite assignment of a band of frequencies for broadcasting, the maintenance of a separation of 10 kc between frequencies used in broadcasting, the reservation of certain frequencies for exclusive use by stations in the Dominion of Canada, and the setting aside of a certain number of other frequencies for shared use by the United States and the Dominion of Canada, all as hereinafter specified in this Order, will serve public interest, convenience or necessity.

The Commission has further determined after careful consideration that the allocation of frequencies, of time for operation and of station power, for use by broadcasting stations, to the respective Zones, as hereinbelow specified in this Order:

a) Is necessary in order to comply in part with the requirements of Section 9 of the Radio Act of 1927 as amended by Section 5 of the Act of Congress March 20, 1920, insofar as it requires that the licensing authority shall as nearly as possible make and maintain an equal allocation of bands of frequency or wavelengths, of periods of time for
105 operation, and of station power, to each of the Zones when and insofar as there are applications therefor and

b) Will promote public interest and convenience and will serve public necessity, insofar as this can be done in a manner consistent with the requirements of said Section 9 of the Radio Act of 1927 as amended by Section 5 of the Act of Congress, March 28, 1928, and will greatly improve reception conditions in the broadcast band by the elimination of a large portion of the interference which now exists.

It is therefore ordered:

Paragraph 1. That a band of frequencies extending from 550 kc to 1500 kc, both inclusive, be, and the same is hereby, assigned to and for the use of broadcasting stations, said band of frequencies being hereinafter referred to as the broadcast band. This order is not to be construed as prohibiting the licensing of maritime mobile services on the frequency of 1365 kc, as provided by the International Radiotelegraph Convention of 1927.

Paragraph 2. That within said broadcast band, a separation of 10 kc be maintained between the frequencies assigned for use by broadcasting stations.

Paragraph 3. That, of the frequencies within said broadcast band, (*a*) the frequencies of 690, 730, 840, 910,
106 960 and 1030 kc be, and the same are, hereby reserved for use by broadcasting stations located in the Dominion of Canada, and shall not be assigned to any broadcasting station licensed by this Commission; (*b*) the frequencies of 580, 600, 630, 780, 880, 890, 930, 1120, 1200 and 1210 kc be, and the same are hereby, set aside for simultaneous use by broadcasting stations located both in the Dominion of Canada and in the United States, its Territories and possessions, and no station will be authorized by this Commission on any of these frequencies with an authorized power which will cause interference at the boundary line between the Dominion of Canada and the United States of America, or in excess of 500 watts at any place within the United States of America or the Territories of Alaska and Porto Rico.

Paragraph 4. That the frequencies within said broadcast band (subject to the foregoing), and periods of time for operation and station power to be used by broadcasting stations on said frequencies be, and the same are hereby, allocated equally to the Zones as follows:

A. The following frequencies are allocated to the First, Second, Third, Fourth and Fifth Zones, respectively, as below indicated for use by broadcasting stations, the amount of power to be used by such stations to be determined by further order of the Commission:

107 First Zone: 660, 710, 760, 860, 990, 1060, 1100, and 1150 kc.

Second Zone: 700, 750, 820, 980, 1020, 1070, 1110, and 1170 kc.

Third Zone: 650, 740, 800, 850, 1040, 1080, 1140, and 1190 kc.

Fourth Zone: 670, 720, 770, 810, 870, 1000, 1090, and 1160 kc.

Fifth Zone: 640, 680, 790, 830, 970, 1050, 1130, and 1180 kc.

B. The following frequencies are allocated each for use by not less than two Zones, with broadcasting stations in those Zones being permitted to operate simultaneously, each station to have an authorized power not to exceed 5 kilowatts, the particular Zone entitled to share in the allocation of any particular frequency to be determined by further order of the Commission:

1460, 1470, 1480, and 1490 kc.

C. The following frequencies are allocated for use by not less than two nor more than three Zones, the broadcasting stations in those Zones being permitted to operate simultaneously, and to have an authorized power not to exceed 1000 watts, the particular Zones entitled to share in the allocation of any particular frequency to be determined by further order of the Commission:

580, 590, 600, 610, 620, 630, 780, 880, 890, 900, 920, 930, 940, 950, 1010, 1120, 1220, 1230, 1240, 1250, 1260,
108 1270, 1280, 1290, 1300, 1320, 1330, 1340, 1350, 1360, 1380, 1390, 1400, 1410 and 1430 kc.

(Except that in those cases where the station locations and powers are such that interference will not be caused, four or five Zones instead of three Zones may share one or more of the foregoing frequencies where practicable.)

D. The following frequencies are allocated for use in all five Zones with broadcasting stations permitted to operate simultaneously, each station to have an authorized power not to exceed 1000 watts:

550, 560, 570, 1440 and 1450 kc.

E. The following frequencies are allocated for use in all five Zones by broadcasting stations in simultaneous operation with an authorized power not to exceed 100 watts, the

number of such stations to be permitted to operate simultaneously in each Zone on each of said frequencies to be determined by further order of the Commission:

1200, 1210, 1310, 1370, 1420, and 1500 kc.

F. Whenever the word "frequency" is used in the preceding sub-paragraphs A, B, C, D, and E of this paragraph, it is to be understood as connoting periods of full-time operation, that is to say twenty-four hours daily, and every allocation herein of a frequency to a particular Zone
109 is to be considered as carrying with it an assignment of full-time operation on that frequency to that Zone.

Paragraph 5. That the allocation hereinbefore ordered in paragraph 4 of this Order be, and the same is hereby declared to be, effective on October 1, 1928, at the hour of 3 o'clock, a. m., Eastern Standard Time; and that the provisions of paragraphs 1, 2 and 3, be, and the same are hereby declared to be, effective as of the date of the issuance of this Order.

FEDERAL RADIO COMMISSION,
By E. O. SYKES,
Acting Chairman.

#150.

110 Federal Radio Commission, No. 74.

Statement to Accompany General Order No. 40.

General Order No. 40, issued yesterday by the Federal Radio Commission, supplies the official basis for an adjustment in the assignment of the country's broadcasting facilities, under a plan which it is believed will provide an improved standard of radio reception generally, and also distribute the broadcasting channels, powers and periods of time on the air equally among the five radio zones as directed by the last Congress.

The plan provides for full-time assignments for 100-watt stations equalling in number the total of all other classes of broadcasters put together.

Of the 74 channels made available for high-grade reception, 34 will be assigned for regional service, permitting

125 full-time positions for this type of station, and 40 channels will be assigned to stations with minimum power of 5000 watts and a maximum to be determined by the Commission and announced with the allocation. On these forty channels only one station will be permitted to operate at any time during night hours, thus insuring clear reception of the station's program, up to the extreme limit of its service range. These forty channels will be assigned eight to each of the five zones, thus insuring wide geographical distribution of the country's higher-power broadcasting facilities to all sections.

On the 34 channels shared by regional stations, ranging in power from 250 to 1000 watts and assigned two, three or four per channel, spacings generally of 1000 to 1500 miles have been observed.

111 Throughout the whole allocation, wide geographical spacings have been observed between stations on adjoining channels, in order to eliminate objectionable "cross-talk."

Summarizing, for "local" stations of 50 to 100 watt ratings, 150 full-time positions have been provided, or 30 per zone; 125 regional positions have been provided for 250 to 1000 watt stations, and 40 positions for stations of 5000 watts and above. Each full-time assignment available for night use, in many instances, is shared by two or more stations or transmitters, depending upon the number of licensed stations to be accommodated in the zone or locality.

Recapitulating by zones, the equal division of the foregoing facilities among the five zones, will provide each zone with *a* 8 full time assignments for stations of 5000 watts and above; 24 positions for 500 watt and 1000 watt stations, and 30 positions for 50 watt and 100 watt stations.

In announcing this plan the Commission does so realizing that it may have imperfections, but believes it an approach to an ideal situation which may be reached in the future.

112 Federal Radio Commission, No. 78.

#200.

Minutes of the Federal Radio Commission.

September 8, 1928—10 o'clock a. m.

Present: Commissioners Sykes, Acting Chairman, Caldwell, Pickard and LaFount; the Secretary, the Chief Engineer, Captain Hill, Mr. Sutton and the General Counsel.

Rules and Regulations.

A motion was duly made and carried that the following regulation be adopted and promulgated as General Order No. 43:

"It is ordered that, until further order of the Commission no two or more of the broadcasting stations assigned to the frequencies allocated under Sub-paragraph A of Paragraph 4 of General Order No. 40 shall, during the period beginning with November 11, 1928, broadcast simultaneously the same identical program for more than one hour daily during the hours between 7 o'clock p. m. and 12 o'clock midnight, local standard time at the location of the station farthest east, unless

a) The transmitters of such stations are separated by a distance in excess of three hundred (300) miles, or

b) Such stations are operating on the same frequency, or

c) Such stations receive special permission from the Commission. This permission will be granted only in the case of programs of extraordinary national interest or of a nature such that public interest, convenience or necessity would clearly be served by their duplication to a greater extent than is permitted by the foregoing provisions of this order.

All stations participating in a duplication of programs in violation of this Order will be held responsible for such violation, as will also any key station from which such duplication of programs proceeds."

Commissioner Sykes was authorized and directed to sign General Order No. 43 as Acting Chairman.

113 Extension of Licenses.

A motion was duly made and carried that the following extension be adopted by the Commission to be entered and promulgated as General Order No. 44:

"It is ordered that, with the exception hereinafter set forth, all existing licenses to broadcast, subject to such modifications, conditions and extensions as may be appended thereto, be, and the same are hereby, further extended for a period of forty-two (42) days from October 1, 1928, to terminate at 3 o'clock a. m., Eastern Standard Time, November 11, 1928. This order shall not apply, and no extension of any existing license shall be deemed to be granted, with respect to any broadcasting station listed in General Order No. 32 which was ordered to consolidate with any other station, and which shall be notified by the Commission prior to October 1, 1928, that its license will not be thus extended."

New Allocation.

There was presented to the Commission for its approval, a new allocation of all broadcasting stations specifying the frequency, amount of power and hours of operation for such stations. This allocation is set forth in a document numbered "175" and for release Tuesday, September 11, 1928, entitled as follows:

"List of radio broadcasting stations arranged according to states showing their power and frequency as of September 1, 1928, and the new allocation so that comparisons can be made easily. This new allocation is to be effective at 3 o'clock a. m., Eastern Standard Time, November 11, 1928."

Together with supplements showing corrections, the said allocation listed certain broadcasting stations not yet in licensed operation, with respect to which there are applications for construction permits pending before the Commission. It also listed certain other broadcasting stations with

an assignment of power in excess of that now authorized under the existing licenses of such stations, such stations having applications pending before the Commission either for construction permits or for modifications of their licenses by increase in power. With respect to such stations, the Commission reserved action on each such application until such application could be taken up and considered separately, and determined that the said allocation, if adopted, should not be taken as a granting of any of said applications.

114 Having examined said new allocation, the Commission made *the Commission made* the following findings:

1. With respect to each broadcasting station listed therein, the new assignments of frequency, power and hours of operation will serve public interest, convenience, or necessity.

2. All changes in frequency, authorized power and/or hours of operation which said new allocation will impose on existing broadcasting stations will promote public convenience and interest, and will serve public necessity, and are necessary to prevent interference between broadcasting stations.

3. With respect to all assignments of frequency, authorized power and hours of operation specified in said new allocation, and with respect to all changes thereof imposed by said new allocation, said assignments and said changes are necessary to carry out and to comply with the provisions of the Radio Act of 1927 and the provisions of Section 5 of the Act of Congress approved March 28, 1928, entitled "An Act continuing for one year the powers and authority of the Federal Radio Commission under the Act of 1927, and for other purposes," and with the provisions of General Order No 40 of the Commission.

All the foregoing findings, however, are to be considered tentative and subject to such new facts and considerations as may be brought to the attention of the Commission prior to November 11, 1928 The Commission thereupon determined upon the following course of procedure for putting said new allocation into effect:

1. That said new allocation shall become effective at the hour of 3 o'clock a. m., Eastern Standard Time, November 11, 1928, with respect to all broadcasting stations listed therein which at that date shall be in operation under licenses issued by the Commission, and which shall, prior to that date, have received licenses, renewals of licenses or extensions of licenses authorizing them to operate after that date.

2. That with respect to all stations listed therein which are now licensed by this Commission and which have on file with this Commission applications for renewal of licenses, the Commission will examine such applications and on or shortly after October 12, 1928, will issue renewals of licenses in all cases where it finds that public interest, convenience or necessity will be served thereby, said
115 renewals however, to authorize the frequency, power and hours of operation set forth in said new allocation. In all cases where the Commission is not satisfied that public interest, convenience or necessity would be served by granting of applications for renewals, the Commission will hold hearings in accordance with Section 11 of the Radio Act of 1927, and pending the conclusion of such hearings will modify the existing licenses of such applicants in accordance with said new allocation and will extend such licenses thus modified for a limited period of time beyond November 11, 1928.

3. That hearings will be accorded to all stations making proper application therefor asking for modification of the assignments indicated in said new allocation said applications to take the form of requests for modification of the licenses or renewal of licenses to be issued on or shortly after October 12, 1928; that such hearings will, so far as possible, be held during the period between October 12 and November 11, 1928; that applications for such modifications will be received prior to October 12 as well as thereafter.

4. That in the event that as a result of any such application for modification and/or of any hearing granted thereon, the assignment of any broadcasting station is changed, the said new allocation is to be considered as changed accordingly.

116 CARL H. BUTMAN.

CARL H. BUTMAN,

Secretary.

The assignments of stations made by the Federal Radio Commission pursuant to General Order No. 40 are contained in Record Doc. No. 79. This document shows the assignment of Station W G Y to be as follows:

			Assignments.				
			Former.			New.	
"Station.	Location.	Owner.	Shared with.	Power.	Kc.	Shared with.	Power. Kc.
W G Y	S. Schenectady.	Generel Electric Co.	....	50000	790	limited	50000 790

Addendum

"The following stations, included in the foregoing list, are to be classed as part-time stations:

* * * * * * *

Station	Location
W G Y	Schenectady, New York

* * * * * * *

"The foregoing stations will not be permitted to operate during the evening hours simultaneously with other stations assigned to the same frequencies."

The status of Station W G Y under this assignment is further governed by General Orders Nos. 41, 42 and 48 of the Federal Radio Commission. These are contained in record documents 75, 76 and 104.

117 Federal Radio Commission, No. 75.

#176.

Federal Radio Commission, Washington, D. C.

General Order No. 41.

At a session of the Federal Radio Commission held at its office in Washington, D. C., on September 4, 1928.

It is ordered that a daytime broadcasting station is hereby defined as a station which under its license from this Commission is permitted to operate only during certain

designated hours during the daytime and is not permitted to operate at any time when its operation will cause heterodyne interference with other broadcasting stations assigned to the same frequency.

No daytime station will be permitted to operate after the average time for sunset during any particular month, to be determined from time to time by the Chief Engineer of the Commission. The time of such sunset shall be taken with reference to the location of the transmitter of the daytime broadcasting station unless it is the farthest East of the stations assigned to the same frequency; in this event the time shall be taken with reference to the location of the transmitter of the nearest broadcasting station on the same frequency located to the West of such daytime broadcasting station.

FEDERAL RADIO COMMISSION,
By E. O. SYKES,
Acting Chairman.

Attest:
[SEAL.] CARL H. BUTMAN,
Secretary.

118 Federal Radio Commission, No. 76.

#177.

Federal Radio Commission, Washington, D. C.

General Order No. 42.

At a session of the Federal Radio Commission held at its office in Washington, D. C. on September 7, 1928.

It is ordered, 1. That, except as hereinafter stated, no broadcasting station assigned to any of the frequencies set forth in subparagraph A of Paragraph 4 of General Order No. 40 be authorized to use in excess of 25 kilowatts until further order of the Commission.

2. That, for the purpose of determining by experiment whether interference will result from the use of a greater amount of power, the Commission may authorize the use of not more than 50 kilowatts power by any of such broadcasting stations for the next license period beginning after the date of this Order.

3. That, for experimental purposes, the Commission may authorize the use of any amount of power in excess of 50 kilowatts, in equal amounts for each Zone, by such broadcasting stations at such hours between midnight and morning as may be determined by the Commission.

4. That the Commission may authorize the use of an amount of power not in excess of twice that above set forth in Paragraphs 1 and 2, by the broadcasting stations therein referred to respectively, for daytime operation only, the exact hours to be determined by the Commission.

5. That nothing stated in this Order shall be construed as giving any broadcasting station any right or claim to any of the maximum amounts of power hereinabove set
119 forth, or to any amount of power in excess of the amount which the Commission shall from time to time in each case find best calculated to serve public interest, convenience or necessity.

FEDERAL RADIO COMMISSION,
By E. O. SYKES,
Acting Chairman.

Attest:
[SEAL.] CARL H. BUTMAN.

120 Federal Radio Commission, No. 104.

#12.

Federal Radio Commission, Washington, D. C.

October 24, 1928.

General Order No. 48.

At a session of the Federal Radio Commission held at its offices in Washington, D. C., on October 22, 1928.

A limited time broadcasting station is hereby defined as a station which, under its license from this Commission, is permitted to operate during hours allowed daytime broadcasting stations as specified in General Order No. 41, and in addition during certain time temporarily not used by the unrestricted station or stations on the same frequency. An example is the use of late evening hours by a limited

time broadcasting station in the West after closing of an Eastern station on the same frequency.

A limited time broadcasting station desiring to operate after sunset shall so notify the Commission, which will ascertain what hours the use of which is not desired by the unrestricted station or stations on the same frequency, and will thereafter authorize the operation of the limited time station accordingly, subject, however, to the right of said unrestricted station or stations to reclaim the use of such hours upon reasonable notice to the Commission and to the limited time broadcasting station.

A limited time broadcasting station will not be permitted to operate at any time when its operation will cause heterodyne interference with other broadcasting stations assigned to the same frequency.

FEDERAL RADIO COMMISSION,
By IRA E. ROBINSON,
Chairman.

Attest:
[SEAL.] CARL H. BUTMAN,
Secretary.

121 Federal Radio Commission, No. 80.

#180.

Federal Radio Commission, Washington, D. C.

September 11, 1928.

To all persons holding licenses to broadcast:

The Commission has found that certain changes in the frequencies, authorized power, and time of operation of existing broadcasting stations will promote public convenience and interest and will serve public necessity. It has further found that these changes are necessary in order to comply in part with the requirements of Section 9 of the Radio Act of 1927 as amended by Section 5 of the Act of Congress of March 28, 1928, and with the requirements of General Order No. 40 heretofore issued by the Commission on August 30, 1928. These changes are all indicated on the attached list of broadcasting stations.

The list includes certain new stations which have heretofore filed applications for construction permits or for licenses. It also includes increased power assignments to certain existing stations which have applied therefor. In both cases, each application has been from a zone, or from a State within a zone, which is below its quota in number of broadcasting licenses, in number of frequencies, in the amount of station power, or in periods of time for operation, and the Commission has granted such applications, after first examining and determining in each case, that public interest, convenience or necessity would be served thereby.

122 The new allocation is to become effective on November 11, 1928, at the hour of 3 o'clock a. m., Eastern Standard Time. This announcement is not to be *construed as a renewal* of any existing station license; it is to apply solely to those stations which shall be in existence at the time it goes into effect, whether by reason of renewals of existing licenses or by reason of further extensions of existing licenses or otherwise.

It is the intention of the Commission to issue renewal licenses to most of the existing broadcasting stations listed in the attached list on or shortly after October 12, 1928, said licenses to be for a period of 90 days commencing on November 11, 1928. These licenses will correspond to the data on the attached list with respect to the frequency, the authorized power, and the hours of operation to be assigned to the respective stations. They cannot be issued prior to that date because of a provision in the Radio Act of 1927 forbidding the granting of a renewal of an existing station license more than 30 days prior to the expiration of the original license. *The existing licenses are being extended by order of the Commission for 42 days from October 1, 1928, to terminate on November 11, 1928, at the hour of 3 o'clock a. m., Eastern Standard Time.* This extension of time prior to the effective date of the reallocation will give all broadcasting stations an opportunity to take such steps as may be necessary to enable them to conform to their new assignment, and also to ask for and obtain from the Commission hearings in cases where the assignments

123 are not satisfactory. In a limited number of cases where the Commission is not satisfied that public interest, convenience or necessity would be served by the

granting of renewal licenses to existing broadcasting stations, the Commission will so notify the licensees and hearings will be held before renewals will be granted.

It is the desire of the Commission that any broadcasting station which is dissatisfied with its assignment under the reallocation should have an opportunity to be heard and to demonstrate that public interest, convenience or necessity would be served by a better assignment. In fairness to the stations affected the Commission believes that these hearings should, so far as possible, take place prior to November 11, 1928, the effective date of the reallocation. The Commission will therefore entertain and accord a hearing on all applications asking for a modification of the renewal licenses which will be issued on or shortly after October 12, 1928. In order to save time, the Commission will permit such applications to be filed prior to that date, and will set them for hearing as soon after that date as possible.

All such applications must specify what frequency, power, and/or hours of operation are desired by the applicant; no application will be entertained which fails to comply with this requirement. As soon as the date for hearing is set, the Commission will notify all broadcasting stations which are directly interested and will give them an opportunity to be heard as well as the applicant. Where
124 the application is for a change in frequency, all broadcasting stations assigned to the requested frequency will be so notified. Where the application is for an increase in power all broadcasting stations assigned to the frequency on which the proposed increased power is to be used, as well as all stations assigned to adjacent channels that are likely to be affected by the increase, will be so notified. Where the application is for an increase or change in hours of operation, all stations the hours of operation of which would be reduced or changed thereby will be so notified.

Applications should be made on forms to be provided by the Commission. It is expected that such forms will be in the hands of the Radio Supervisors in the near future but in the meantime they may be obtained by application to the Secretary of the Commission.

FEDERAL RADIO COMMISSION,
By E. O. SYKES,
Acting Chairman.

The following communications and documents are self-explanatory: Record Docs. 82 to 89 inclusive, 91, 92, 94, 95 and 96.

125 Federal Radio Commission, No. 82.

Copy.

General Electric Company, Schenectady, N. Y.

September 15, 1928.

Mr. Carl H. Butman,
Sec., Federal Radio Commission,
Internal Building,
Washington, D. C.

DEAR MR. BUTMAN:

Please allow this to serve as a gentle reminder that I would appreciate receiving the special forms for applying for a hearing before the Federal Radio Commission in the matter of the re-allocation plan.

Very truly yours,

HARRY SADENWATER,
E. O.,
Station WGY.

126 Federal Radio Commission, No. 83.

Copy.

September 19, 1928.

Mr. Harry Sadenwater,
General Electric Company,
Schenectady, New York.

DEAR SIR:

Replying to your letter of September 15, there are inclosed herewith six forms for modification of station license.

Very truly yours,

CARL H. BUTMAN,
Secretary.

SWP.

127 Federal Radio Commission, No. 84.

Copy.

General Electric Company, 1 River Road,
Schenectady, N. Y.

September 21, 1928.

Mr. O. H. Caldwell,
c/o McGraw-Hill Publishing Company,
10th Avenue at 36th Street,
New York City.

DEAR MR. CALDWELL:

With regard to yours of the 19th, I have again looked at the radio law and the regulations, and I find nothing in them to warrant the arrangement that you suggest. 790 kilocycles is one of the frequencies set aside by the Commission for assignment to a particular zone. Therefore, if you assign WGY to this frequency after it has been transferred to Zone 5, either the latter zone is not getting a cleared channel to which it is entitled, or WGY is getting nothing at all.

It is still incomprehensible to me how you with your knowledge of radio matters, and your familiarity with the developmental work of our Company through WGY, as well as with your knowledge of the area which we cover exclusively, could have agreed to any such arrangement. WGY is certainly far more entitled to a cleared channel than several of the stations which you have placed ahead of it. For example, a station which is serving as the key station to a large chain can readily depend upon the chain for its distribution, and therefore does not require a cleared channel for its own relatively concentrated audience.

On my return to Schenectady I am called upon every few minutes for information regarding the Commission's ruling. Everyone feels that it is so unjust that it cannot be true. Protests of all kinds are being organized all through this part of the State as well as in Massachusetts and other adjoining States. It will be a tremendous storm when it breaks.

Please let me know at your earliest convenience when I can meet the Commissioners in Washington and lay the case before them. I should prefer to do this at first informally because I know that if a public hearing is called, Chambers of Commerce, radio trades associations, and newspapers all around here will insist upon coming along.

Very truly yours,

MARTIN P. RICE,
Manager of Broadcasting.

MPR:T.

128 Federal Radio Commission, No. 85.

Copy.

September 25, 1928.

Mr. Martin P. Rice,
General Electric Company,
1 River Road,
Schenectady, N. Y.

DEAR MR. RICE:

Answering your inquiry as to the conditions of operation of the two General Electric broadcasting stations under your direction, WGY and KGO, assigned to channel 790 kilocycles by the new allocation:

It is the Commission's understanding that while this channel is assigned to the Fifth Zone and to KGO, there is nothing in any Commission regulation or order which will prevent you, as KGO's manager, from modifying KGO's operating time slightly so that both WGY and KGO may enjoy exclusive-channel operation, and each with a time schedule at least 90 per cent of its present operating hours. This can be accomplished as follows:

Station WGY operates throughout daytime, and during evening to 10 p. m.

Station KGO operates throughout daytime, stands by from Sunset to 7 p. m., and resumes operation from 7 p. m. throughout rest of night.

Since both stations are under your personal management, this schedule can be varied at will, from night to night, to conform to special features on either station.

Thus, if KGO stands by until 8 p. m., WGY may run until 11 p. m. The only restriction imposed by the Commission is that the two stations shall not operate simultaneously while the intervening distance is linked by darkness, (unless the two stations are later synchronized, in which case the remaining hour can be used simultaneously without interference.

In order that there may be no doubt in your mind that the schedule above is the understanding of a majority of the Commission, I have asked my associates to read and initial this statement, which should set at rest the misleading reports appearing that Station WGY was to be limited to "daylight" or "one-hour" operation.

You are undoubtedly aware that in its efforts to reduce interference and improve radio reception, under the difficult requirements of the equalizing law, the Commission has had to impose time-sharing and reduced schedules on many stations. In certain cities great 5000-watt stations are dividing time—even four and five to a wavelength. Several hundred stations have been reduced to half-time operation.

129 In the face of the severe restrictions thus imposed on many other broadcasters, the Commission feels sure that you will willingly cooperate toward better radio with a slight limitation of your own broadcasting hours, as above suggested,—arrangement made possible by sharing the 790-kilocycle channel between your own stations, with the aid of the three-hour time difference—rather than adding WGY onto one of New York State's hour exclusive channels, now occupied by WEAF, WJZ, WABC and WHAM, which would impose severe time-division on these New York exclusive channel stations, and deprive the public of at least one high-power transmitter 24 hours a day, (instead of one hour a day).

No one could be more appreciative than the members of the Commission of the splendid service which WGY has been rendering the listeners of central New York, nor of the contributions to the radio art made through this station. Personally, I regret that fifty clear channels were not set aside for high-power broadcasters, so that New York's proportion would have been sufficient to take care of all of her great stations. But with conditions as they are,

and all things considered, the Commission feels that the allocation as made, secures the greatest possible use for New York's facilities, even if at the cost of an hour's reduction of your operating time, which, I am sure, you will gladly concede, in the interest of a reallocation set-up that will bring improved radio to millions of listeners.

Vry truly yours,

O. H. CALDWELL,
Commissioner.

130 Federal Radio Commission, No. 86.

Copy.

September 25, 1928.

Radio Station WGY, General Electric Co.,
1 River Road,
Schenectady, N. Y.

(Attention Mr. M. P. Rice.)

Have forwarded letter outlining operating conditions giving Commission's understanding as promised. Stop. For informal conference requested, suggest Friday this week eleven o'clock, earlier days being occupied with short-wave hearings. Stop. Next week also available.

O. H. CALDWELL.

Day letter.
Charge: Federal Radio Commission.
(Official business.)
Sent —— —, ——. SWP.

Federal Radio Commission, No. 87.

131 Copy.

October 1, 1928.

Mr. Martin P. Rice,
Radio Station WGY,
Schenectady, N. Y.

DEAR MR. RICE:

Supplementing statement made to you by members of the Commission, as to the large number of stations it has been

necessary to put on half-time basis, if the public is to be restored good radio reception, I attach for your attention list of stations of *5000 to 50,000 watts,* (i.e., powers requiring cleared channels like WGY), which will *divide time* under the Re-Allocation.

This list is limited to large stations only and does not include 300 other stations of 1000 watts and less, which will be on a half-time or further time reduction.

You will note that nearly all of these 5000-to-50,000-watt transmitters listed can be permitted to operate only half-time or less, and that in some sections, certain great stations will be required to cut their schedules even to one-quarter time or some smaller fraction.

To impose such drastic time reduction has been the Commission's necessary but most unpleasant duty,—and certainly one little relished by myself, with my well established views that the Government should interfere as little as possible with private enterprise.

Yet, as you, with your long experience in radio, well know, only by so reducing the equivalent number of stations simultaneously on the air, can we rescue radio from the heterodyne confusion of the past two years, and open the road lanes to all our population, particularly to the great rural majority which needs radio most.

Of course, the severe time reductions, shown on this list averaging 50%, are in no way comparable with the slight concession of an hour or so a day asked of WGY, as an aid to the Commission in its difficult task of paring radio-broadcasting back to "good reception" conditions.

But this list of time-divisions by large stations illustrates the drastic steps that have been necessary, in carrying out the Commission's disagreeable duty in the listeners' interest,—an operation long demanded by the public, by Congress, and by the radio and electrical industry itself, and from which the industry will be the chief financial beneficiary in supplying a greatly expanded market.

Very truly yours,

O. H. CALDWELL,
Commissioner.

Broadcasting Stations of 5,000 *to* 50,000 *Watts Which Will Operate Part-Time Only, under the Reallocation Effective Nov.* 11.

			Power watts	Fraction of full-line operations
WLW	Cincinnati, O.	Crosley Radio Corp.	50,000	Half
WENR	Chicago, Ill.	Commonwealth Edison Co.	50,000	Two-sevenths
WOC	Davenport, Iowa	Palmer School	5,000	Half
WLS	Chicago, Ill.	Sears-Roebuck Co.	5,000	Five-sevenths
WHO	Des Moines, Ia.	Bankers Life Ins. Co.	5,000	Half
WJAZ	Chicago, Ill.	Zenith Radio Co.	5,000	One-seventh
WHT	Chicago, Ill.	Wm. Hale Thompson	5,000	One-seventh
WORD	" "	Peoples Pulpit Assn.	5,000	One-seventh
WAIU	Columbus, O.	Amer. Ins. Union	5,000	Half
WIBO	Chicago, Ill.	WIBO B/C Co.	5,000	Four-sevenths
WSAI	Cincinnati, O.	Crosley Radio Corp.	5,000	Half
KFAB	Lincoln, Neb.	Neb. Buick Co.	5,000	Three-sevenths
WBBM	Chicago, Ill.	Atlas Bros. Co.	10,000	Four-sevenths
WBAP	Fort Worth, Tex.	Carter Publications	50,000	Half
KTHS	Hot Springs, Ark.	Arlington Hotel	5,000	Half
KWKH	Shreveport, La.	W. K. Henderson	5,000	Half
WWL	New Orleans, La.	Loyola, University	5,000	Half
WHAJ	Louisville, Ky.	Courier Journal	10,000	Half
WWVA	Wheeling, W. Va.	W. Va. B/C Co.	5,000	Half
WFAA	Dallas, Tex.	Dallas News	50,000	Half

			Power watts	Fraction of full-line operations
KRLD	" "	KRLD, Inc.	10,000	Half
WBAL	Baltimore, Md.	Con. Gas & Elec. Co.	5,000	Half
WTIC	Hartford, Conn.	Travellers Life Ins. Co.	50,000	Half
WBT	Charlotte, N. C.	C. C. Caddington	5,000	Half
WPTF	Raleigh, N. C.	Durham Life Ins. Co.	5,000	Half
WPG	Atlantic City, N. J.	Atlantic City	5,000	Three-quarters
WLWL	New York City	Paulist Fathers	5,000	One-quarter
KFKB	Milford, Kan.	Dr. Brinkley	5,000	One-quarter
WADI	Auburn, Ala.	Alabama Polytech	5,000	Half
WJAX	Jacksonville, Fla.	City of Jacksonville	5,000	Half
KEX	Portland, Ore.	Western B/C Co.	5,000	Half
KOB	State College, N. M.	College of Agriculture	10,000	Half
WRR	Dallas Tex.	City of Dallas	5,000	Half
WOAI	San Antonio, Tex.	Southern Equip. Co.	5,000	Half
WKBW	Buffalo, N. Y.	Churchill Evangel. Assn.	5,000	Half
KFJF	Okla. City	Nat'l Radio Mfg. Assn.	5,000	Half
WRUF	Gainesville, Fla.	Univ. of Fla.	5,000	Half
WBAW	Nashville, Tenn.	Waldrum Drug Co.	5,000	Half
WLAC	" "	Life Ins. Co.	5,000	Half
WOWO	Ft. Wayne, Ind.	Main Auto Supply Co.	5,000	Four-sevenths
KTNT	Muscatine, *Oa.*	Norman Baker	5,000	One-seventh
WCBD	Zion, Ill.	Wilbur Glenn Voliva	5,000	One-seventh
WMBI	Chicago, Ill.	Moody Bible Inst.	5,000	One-seventh

Federal Radio Commission, No. 89.

133 Copy.

October 2, 1928.

Mr. Martin P. Rice,
Manager of Broadcasting,
General Electric Co.,
1 River Road,
Schenectady, New York.

MY DEAR MR. RICE:

As you are already aware the 790 kilocycle channel has been allocated to the Fifth Zone and Broadcasting Station KGO will be given permission to operate upon the same. The Commission have also authorized the operation of Broadcasting Station WGY upon this same channel during daylight hours, it being the belief of the Commission that no interference will result from the simultaneous operation of Station KGO and WGY during daylight hours at Oakland.

Inasmuch as your Company own both of the stations herein referred to, and inasmuch as you are desirous of operating Station WGY after sunset in California, you are advised that so far as I am personally concerned it will be entirely satisfactory to me if you close your station in Oakland from 5 to 7 p. m. each day permitting Station WGY to operate during these two hours, which would be from 8 to 10 p. m. in Schenectady.

You will of course appreciate the fact that it is not within my power to give away that which belongs to the Fifth Zone and also that my interests are particularly in the California Station, but under the circumstances I believe that there will be no complaints made by the public and that such an arrangement will prove to be very beneficial to your Station at Schenectady, and will perhaps interfere but little with the operation of the Oakland Station. Of course if the Oakland Station objected, then my attitude would be entirely different, but assuming that such an arrangement would be entirely satisfactory to them, then may I re-

assure you of my willingness to support and endorse this time schedule.

Yours very truly,

HAROLD A. LAFOUNT,
Commissioner.

HAL/ms.

Federal Radio Commission, No. 91.

134 Copy.

General Electric Company, 1 River Road, Schenectady, N. Y.

October 4, 1928.

Hon. O. H. Caldwell,
Federal Radio Commission,
Washington, D. C.

DEAR MR. CALDWELL:

Referring to yours of October 1st and telephone conversation, I cannot see that the list of part-time stations accompanying your letter has any important bearing on the WGY matter.

You call it a list of stations of 5000 to 50,000 watts, but none of these stations is licensed to broadcast at 50,000 watts. On the same basis, WGY should be referred to as a 150,000 watt station, which, considered solely on the basis of rating, is in a class by itself, but there are other reasons why the list you submit is not relevant.

All but six of the stations are in districts adequately served by at least one other station. With two exceptions it is not a list of great stations at all. None of them ranks with WGY in power, in priority, in developmental contribution to radio, or in service to the public.

You will never improve radio reception for the public by shutting down or crippling the country's best broadcasting stations, and yet, if I read your letter correctly, you appear to feel that because your list of stations have been assigned to half-time or less, WGY should also accept some cut. The argument is entirely illogical as I believe your own knowledge of the situation must tell you. Putting WGY on part-time renders no service to listeners, but it deprives about

three million people in cities and rural districts of their most dependable programs.

You repeatedly refer to the slight concession asked of WGY. Conformance to the Commission's regulations would result in cancelling 50 per cent of WGY's program hours, and the adoption of the irregular suggestion made by the Commission with regard to WGY and KGO would result in the cancellation of approximately 35 per cent of the broadcasting now regularly scheduled over KGO, and would reduce the evening broadcasting of WGY approximately 25 per cent during the winter.

I am hoping, Mr. Caldwell, that you can clear your mind of questions of station ownership and other matters not in the law or in the regulations so that you may focus clearly on the question of public interest, convenience and necessity. Then, I am sure you will not find the allocation problem such a difficult or disagreeable one.

Very truly yours,

(Signed) MARTIN P. RICE,

Manager of Broadcasting.

MPR:T.

Federal Radio Commission, No. 92.

135 Copy.

Form No. 13.

Department of Commerce, Received Oct. 6, 1928, Radio Division.

Station License File No.: 264.

(To be filled in by the Federal Radio Commission:)

Call Letters: —. Frequency: —. Power: —. Official Number: —.

1-M-B-45.

Federal Radio Commission, Oct. 8, 1928.

United States of America, Federal Radio Commission.

Application for Modification of Station License.

(*Submit in duplicate to District Supervisor of Radio in charge of district in which station is located. Swear to one copy.*)

To the Federal Radio Commission:

1. Name of applicant: General Electric Company.

2. Post office address: State, New York; City, Schenectady; Street, River Road; Number, No. 1.

3. Nature of Modification:

Terms of reallocation plan.

A. Frequency: 790 Kcs.

B. Power: 25,000 (50,000 exper'l) Watts.

C. Hours of operation: Until sunset Pacific Coast Station KGO.

D. Location of transmitter: So. Schenectady.

E. Location of main studio: International General Electric building, Schenectady.

F. Call letters: WGY.

G. .....

Modification requested.

A. Frequency: 790 Kcs.

B. Power[1]: 150,000 Watts.

C. Hours of operation: Full-time.

D. Location of transmitter: So. Schenectady.

E. Location of main studio: International General Electric building, Schenectady.

F. Call letters[2]: WGY.

G. .....

[1] If construction of a new transmitter is contemplated, application for construction permit must be filed.

[2] Call letters are designated by the Secretary of Commerce. Any request for change will be submitted to him by the Commission.

---

136 4. How will the granting of the application serve public interest, convenience, or necessity? ——.

5. The applicant's last application for a station license is to be considered as part of this application, and the truth of the statements therein contained is hereby reaffirmed except in so far as the contrary expressly appears in this application.

6. The applicant waives any claim to the use of any particular frequency or wave length or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise,

and requests a station license in accordance with this application.

Dated this 4th day of October, 1928.

GENERAL ELECTRIC COMPANY,
Applicant.

A. D. MARSHALL.
Asst. Secretary.

STATE OF NEW YORK,
County of Schenectady, ss:

A. D. Marshall, being first duly sworn, upon his oath deposes and says that he is the (If applicant is not an individual, insert "agent of") Agent of above-named applicant and that the statements in the foregoing application are true of his own knowledge, except as to such statements as are therein stated to be on information and belief, and as to such statements applicant believes them to be true.

A. D. MARSHALL.

Subscribed and sworn to before me this 4th day of October, 1928.

ARTHUR K. WILLEY,
Notary Public.

137 4. How will the granting of the application serve public interest, convenience, or necessity?

WGY has broadcast on a wavelength of 379.5 meters (790 kilocycles) since May 21, 1923, since which time this wavelength has been maintained as a cleared channel.

WGY serves an area in New York, Vermont, Massachusetts, and New Hampshire which depends almost exclusively on this station for broadcast service. The population within a range of sixty miles of WGY is approximately 1,000,000. Within a range of one hundred miles there is a population of 2,440,000 to many of which WGY supplies the most dependable program. The people in this area are much more dependent upon radio for their general information and entertainment than the people in the large metropolitan centers.

General Electric Company has made many contributions to the development of radio science and industry through WGY, and this station stands for scientific progress and development. During the period when the Department of

Commerce recognized developmental broadcasting stations, WGY was one of the three stations licensed in this class. The improvements first demonstrated through WGY have been incorporated in the regular operations of many of the better broadcasting stations throughout the country.

The programs of WGY have included the best in music, entertainment, statesmanship, economics, instructions, and religion. The reports on weather, markets and stocks have been of inestimable value to the agriculturalist and the business man. The broadcasting in co-operation with the State Department of Health and the Department of Agriculture have constituted a real service.

WGY's programs on short waves are not only regularly received by hundreds of listeners throughout the United States, but are also heard daily in many foreign countries. The newspapers and magazines of the British Isles, South Africa, Australia, and South America regularly print WGY's programs. This broadcasting is a factor in promoting international understanding and goodwill.

In the recent reallocation, WGY's wavelength (790 kc.) was transferred to the Pacific Coast as one of the eight cleared channels assigned to Zone 5. Order No. 40 specifies that such assignments connote periods of full time operation, that is to say, 24 hours daily, and every allocation of a frequency to a particular zone is to be considered as carrying with it an assignment of full-time operation on that frequency to that zone.

No other wavelength has been assigned to WGY to replace the wavelength transferred to Zone 5 for 24-hour operation. However, in the list of stations under the new reallocation, WGY has been designated a limited station to operate on the 790 kilocycle frequency with the added note that such stations will not be permitted to operate during the evening hours simultaneously with other stations assigned to the same frequencies.

138 Overlooking for the time being our property and priority right, we believe that the transfer of WGY's wavelength to the Pacific Coast without replacing it by an equally satisfactory cleared channel will not serve public interest, convenience or necessity.

In a letter from Commissioner O. H. Caldwell to Martin P. Rice, dated Washington, September 25th, and initialled

by Commissioners Pickard, Lafount and Sykes, the suggestion is made that slight modifications in the schedule of KGO and WGY would enable both of these stations to enjoy exclusive channel operation. The definite suggestion is that KGO stand by from sunset until 7:00 p. m. or 8:00 p. m. and the WGY sign off at 10:00 p. m. or 11:00 p. m. This suggestion would deprive Zone 5 of approximately 35% of the broadcasting now regularly scheduled over KGO, and it would reduce the evening broadcasting of WGY approximately 25% during the winter. The suggestion therefore cannot in any sense be considered as a slight modification. Moreover, it does not conform to the equalization plan allocating eight cleared channels to each zone for the wavelength assigned to Zone 5 is no longer a cleared channel if it is to be used during the evening by a station in another zone. It is evident therefore that either the fifth zone does not receive a cleared channel to which it is entitled, or if it does, WGY has no right to broadcast after sunset on the Pacific Coast.

The reallocation results in the assignment of four cleared channels to serve New York City, which also has the choice of at least ten other programs on the local or regional assignments. The public dependent upon WGY have no other reliable program.

In the public interest we request that WGY be permitted to continue broadcasting on its present frequency (790 kc.) as a cleared channel without restrictions as to time.

139 *Radio Supervisor's Report.*

October 5, 1928.

Application received: U. S. Supervisor of Radio, Department of Commerce, Received Oct. 5, 1928, New York, N. Y.

Remarks (state any pertinent facts): Forwarded for information of Radio Division and action of the Federal Radio Commission.

ARTHUR BATCHELLER,
U. S. Supervisor of Radio.

140 Copy.

JHD:EPW.

October 9, 1928.

Federal Radio Commission, No. 94.

Mr. Harry Sadenwater,
Radio Station WGY,
No. 1 River Road,
Schenectady, N. Y.

DEAR SIR:

Replying to your letter of October 4th, the average times of sunset for the months of the year at Oakland, California, are as follows in Pacific time:

January	5:17
February	5:48
March	6:18
April	6:47
May	7:17
June	7:32
July	7:28
August	7:00
September	6:16
October	5:32
November	5:01
December	4:56

These correspond of course to 8:17, 8:40, etc. in Eastern Standard time.

Respectfully,

J. H. DELLINGER,
Chief Engineer.

141 #281.

Minutes of the Federal Radio Commission.

Federal Radio Commission, No. 95.

October 12, 1928—10 o'clock a. m.

Present: Commissioners Robinson, Chairman, Sykes, Caldwell, Pickard, and Lafount; the Secretary, Chief Engineer, Captain Hill, and the General Counsel.

There was presented to the Commission a revision of the allocation presented to the Commission and approved at its meeting of September 8, 1928, said revised allocation listing all broadcasting stations and specifying the frequency, amount of power and hours of operation for each station. This revised allocation is set forth in a document numbered 282 entitled as follows:

"Revised List of Broadcasting Stations by Frequencies Effective 3 a. m., November 11, 1928, Eastern Standard Time."

Said revised allocation incorporates a number of changes with respect to frequency, amount of power and hours of operation; it also incorporates certain new stations and certain increases of power premised on the granting of construction permits now pending before the Commission.

On motion by Commissioner Sykes, which motion was duly carried, the Commission reconsidered the plan submitted by Commissioner Pickard at the meeting of October 8, 1928, for providing a cleared channel for Iowa, etc., and the action adopting said plan was rescinded.

Having examined said revised allocation, the Commission made the following findings:

1. With respect to each broadcasting station listed therein, the assignment of which is the same as is set forth in the allocation adopted on September 8th, the Commission reaffirms its finding that such assignments will serve public interest, convenience or necessity and are necessary to prevent interference between broadcasting stations.

2. With respect to each broadcasting station listed therein, the assignment of which is other than was listed in the allocation adopted on September 8th, the Commission finds that the new assignments will promote public convenience and interest and will serve public necessity, and are necessary to prevent interference between broadcasting stations.

142 3. With respect to each new broadcasting station listed therein, the Commission finds that the granting of pending applications for licenses of such stations will serve public interest, convenience, or necessity.

4. With respect to each station listed therein on the premise that a pending application for construction permit

will be granted, the Commission finds that the granting of such applications for construction permits will serve public interest, convenience, and necessity to the extent of the assignments indicated in the revised allocation.

5. With respect to all assignments of frequencies, authorized power, hours of operation specified in said revised allocation and with respect to all changes thereof imposed by said revised allocation, said assignments and said changes are necessary to carry out and to comply with the provisions of the Radio Act of 1927 and the provisions of Section 5 of the Act of Congress approved March 28, 1928, and with the provisions of General Order No. 40 of the Commission.

Commissioner Robinson dissented from the foregoing findings, explaining his action as being based on his opposition to the whole reallocation as distinguished from a policy of gradual changes and on his opposition to certain increases of power in connection with high-powered stations. He further explained that he did not want his vote to be understood as opposing any particular change in frequency, hours of operation or power, (other than with respect to such high-powered stations) as between said revised allocation and the allocation approved September 8th.

On motion by Commissioner Sykes, which motion was duly carried, the Commission set aside and rescinded so much of the allocation of September 8th as is inconsistent with said revised allocation.

Commissioners Robinson and Pickard presented to the Commission an arrangement between them affecting the Second and Fourth Zones whereby, under said revised allocation, the Second Zone received a favorable assignment on 920 kilocycles for a Detroit station, and the Fourth Zone borrowed the use of one-half time on a cleared channel for use by a Fourth Zone station. The latter portion of the arrangement was accomplished by the Fourth Zone being given the use of full time on 1020 kilocycles and the Second Zone being given the use of half time on 1160 kilocycles. By motion duly made and carried the Commission approved this arrangement.

143 On motion by Commissioner Sykes, which motion was duly carried, the Commission entered the following:

1. That to each broadcasting station listed in said revised allocation which has an application for renewal of its license pending before the Commission, a renewal license be issued for the frequency, power and hours of operation indicated in said revised allocation.

2. That to each broadcasting station listed in said revised allocation on the premise that a pending application for construction permit will be granted, a construction permit issue for the power and in accordance with the assignment indicated in said revised allocation.

3. That to each new station listed in said revised allocation on the premise that a pending application for license will be granted, license issue to such station in accordance with the assignment indicated in said revised allocation.

4. That each license or renewal license issued under the foregoing directions be so worded as to take effect on November 11th at the hour of 3 o'clock A. M., Eastern Standard Time and to terminate on January 31st, 1929 at the hour of 3 o'oclock A. M., Eastern Standard Time.

5. That each construction permit issued under the foregoing directions be so worded as to require completion of the construction of the transmitter within a period of 90 days from the date of issuance.

Commissioner Robinson did not participate in the foregoing directions because of his opposition to the reallocation as above explained.

CARL H. BUTMAN,
Secretary.

Federal Radio Commission, No. 96

#282

[fol. 144] Federal Radio Commission, Washington, D. C.

October 23, 1928.

Revised List of Broadcasting Stations by Frequencies Effective 3 A. M., November 11, 1928, Eastern Standard Time

(This list supersedes the list dated September 8, 1928.)

Call letters.	Location.	Owner.	Divides time with.	Power.
550 Kilocycles:				
WGR	Buffalo, N. Y.	Federal Radio Corp.		750
WEAO	Columbus, Ohio	Ohio State University	WKRC	750
WKRC	Cincinnati, O.	Kodel Radio Corp.	WEAO	500
KFUO	St. Louis, Mo.	Concordia Theo. Seminary	KSD	500
KSD	" " "	Pulitzer Pub. Co.	KFUO	500
KFDY	Brookings, S. D.	S. D. State College	KFYR-KFJM	500
KFYR	Bismark, N. D.	Hoskins-Meyer	KFDY-KFJM	500
KFJM	Grand Forks, N. D.	Univ. of N. Dakota	KFDY-KFYR	500
560 Kilocycles:				
WLIT	Philadelphia, Pa.	Lit Brothers	WFI	500
WFI	" "	Strawbridge & Clothier	WLIT	500
KFDM	Beaumont, Tex.	Magnolia Petroleum Co.		500
WMBF	Miami Beach, Fla.	Fleetwood Hotel Corp.		500
WNOX	Knoxville, Tenn.	Sterchi Brothers		1000
WOI	Ames, Iowa	Iowa State College	KFEQ	3500 dylt.
KFEQ	St. Joseph, Mo.	Scroggin & Co. Bank	WOI	2500 dylt.
KOAC	Corvallis, Ore.	Oregon State Agri. College		1000
KLZ	Dupont, Colo.	Reynolds Radio Co. Inc.		1000

570 Kilocycles:

WNYC	New York City	Dept. Plant & Structure	WMCA	500
WMCA	" " "	Greeley Sq. Hotel Co.	WNYC	500
WSYR	Syracuse, N. Y.	Clive B. Meredith		250
WSMK	Dayton, Ohio	Stanley M. Krohn, Jr.	WKBN	200
WKBN	Youngstown, Ohio	W. P. Williamson, Jr.	WSMK	500
WWNC	Asheville, N. C.	Chamber of Commerce		1000
KGKO	Wichita Falls, Tex.	Wichita Falls Brdcstg. Co.		250
WHA	Madison, Wis.	Univ. of Wisconsin	WPCC-WRM	750
WPCC	Chicago, Ill.	North Shore Cong. Ch.	WRM-WHA	500
WRM	Urbana, Ill.	Univ. of Illinois	WPCC-WHA	500

*See General Order # 42.

[fol. 145] 570 Kilocycles (Cont'd):

KUOM	Missoula, Mont.	State Univ. of Montana	KXA	500
KMTR	Hollywood, Calif.	KMTR Radio Corp.	KPLA	1000
KPLA	Los Angeles, Cal.	Pacific Develop. Radio Co.	KMTR	1000
KXA	Seattle, Wash.	America Radio Tel. Co.	KUOM	500

580 Kilocycles (Canadian Shared):

WTAG	Worcester, Mass.	Worcester Telegram Pub. Co.		250
WKAQ	San Juan, P. R.	Radio Corp. of P. R.		500
WOBU	Charleston, W. Va.	Charleston Radio Brdg. Co.	WSAZ	250
WSAZ	Huntington, W. Va.	McKellar Electric Co.	WOBU	250
KGFX	Pierre, S. D.	Dana McNeill		200 dylt.
KSAC	Manhattan, Kans.	Kansas State Agri. College	WSUI	500
WSUI	Iowa City, Iowa	State Univ. of Iowa	KSAC	500

590 Kilocycles:

WEEI	Boston, Mass.	Edison Elec. Illum. Co.		500
WEMC	Berrien Springs, Mich.	Emanuel Missionary College		1000 dylt.
WCAJ	Lincoln, Nebr.	Nebr. Wesleyan Univ.	WOW	500
WOW	Omaha, Nebr.	Woodmen of the World Life Ins. Assn.	WCAJ	1000
KHQ	Spokane, Wash.	Louis Wasmer, Inc.		1000

Federal Radio Commission, No. 96

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[fol. 144] Federal Radio Commission, Washington, D. C.

October 23, 1928.

Revised List of Broadcasting Stations by Frequencies Effective 3 A. M., November 11, 1928, Eastern Standard Time

(This list supersedes the list dated September 8, 1928.)

Call letters.	Location.	Owner.	Divides time with.	Power.
550 Kilocycles:				
WGR	Buffalo, N. Y.	Federal Radio Corp.		750
WEAO	Columbus, Ohio	Ohio State University	WKRC	750
WKRC	Cincinnati, O.	Kodel Radio Corp.	WEAO	500
KFUO	St. Louis, Mo.	Concordia Theo. Seminary	KSD	500
KSD	" " "	Pulitzer Pub. Co.	KFUO	500
KFDY	Brookings, S. D.	S. D. State College	KFYR-KFJM	500
KFYR	Bismark, N. D.	Hoskins-Meyer	KFDY-KFJM	500
KFJM	Grand Forks, N. D.	Univ. of N. Dakota	KFDY-KFYR	500
560 Kilocycles:				
WLIT	Philadelphia, Pa.	Lit Brothers	WFI	500
WFI	" "	Strawbridge & Clothier	WLIT	500
KFDM	Beaumont, Tex.	Magnolia Petroleum Co.		500
WMBF	Miami Beach, Fla.	Fleetwood Hotel Corp.		500
WNOX	Knoxville, Tenn.	Sterchi Brothers		1000
WOI	Ames, Iowa	Iowa State College	KFEQ	3500 dylt.
KFEQ	St. Joseph, Mo.	Scroggin & Co. Bank	WOI	2500 dylt.
KOAC	Corvallis, Ore.	Oregon State Agri. College		1000
KLZ	Dupont, Colo.	Reynolds Radio Co. Inc.		1000

570 Kilocycles:

WNYC	New York City	Dept. Plant & Structure	WMCA	500
WMCA	" " "	Greeley Sq. Hotel Co.	WNYC	500
WSYR	Syracuse, N. Y.	Clive B. Meredith		250
WSMK	Dayton, Ohio	Stanley M. Krohn, Jr.	WKBN	200
WKBN	Youngstown, Ohio	W. P. Williamson, Jr.	WSMK	500
WWNC	Asheville, N. C.	Chamber of Commerce		1000
KGKO	Wichita Falls, Tex.	Wichita Falls Brdcstg. Co.		250
WHA	Madison, Wis.	Univ. of Wisconsin	WPCC-WRM	750
WPCC	Chicago, Ill.	North Shore Cong. Ch.	WRM-WHA	500
WRM	Urbana, Ill.	Univ. of Illinois	WPCC-WHA	500

*See General Order #42.

[fol. 145] 570 Kilocycles (Cont'd):

KUOM	Missoula, Mont.	State Univ. of Montana	KXA	500
KMTR	Hollywood, Calif.	KMTR Radio Corp.	KPLA	1000
KPLA	Los Angeles, Cal.	Pacific Develop. Radio Co.	KMTR	1000
KXA	Seattle, Wash.	America Radio Tel. Co.	KUOM	500

580 Kilocycles (Canadian Shared):

WTAG	Worcester, Mass.	Worcester Telegram Pub. Co.		250
WKAQ	San Juan, P. R.	Radio Corp. of P. R.		500
WOBU	Charleston, W. Va.	Charleston Radio Brdg. Co.	WSAZ	250
WSAZ	Huntington, W. Va.	McKellar Electric Co.	WOBU	250
KGFX	Pierre, S. D.	Dana McNeill		200 dylt.
KSAC	Manhattan, Kans.	Kansas State Agri. College	WSUI	500
WSUI	Iowa City, Iowa	State Univ. of Iowa	KSAC	500

590 Kilocycles:

WEEI	Boston, Mass.	Edison Elec. Illum. Co.		500
WEMC	Berrien Springs, Mich.	Emanuel Missionary College		1000 dylt.
WCAJ	Lincoln, Nebr.	Nebr. Wesleyan Univ.	WOW	500
WOW	Omaha, Nebr.	Woodmen of the World Life Ins. Assn.	WCAJ	1000
KHQ	Spokane, Wash.	Louis Wasmer, Inc.		1000

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
600 Kilocycles (Canadian Shared):				
WTIC	Hartford, Conn.	Travellers Ins. Co.		250
(Temporary assignment pending completion of new 50,000 watt station.)				
WOAO	Baltimore, Md.	Monumental Radio, Inc.		250
WREC	Whitehaven, Tenn.	WREC, Incorporated	WOAN	500
WOAN	Lawrenceburg, Tenn.	Ch. of the Nazerene Vaughan School of Music	WREC	500
WEBW	Beloit, Wis.	Beloit, College		250 dylt.
KFSD	San Diego, Cal.	Airfan Radio Corp.	(1000 day)	500
KFBU	Laramie, Wyo.	Bishop N. S. Thomas		500
610 Kilocycles:				
WFAN	Philadelphia, Pa.	Keystone Brdcstg. Co.	WIP	500
WIP	Philadelphia, Pa.	Gimbel Bros. Inc.	WFAN	500
WQAF	Kansas City, Mo.	Kansas City Star Co.	WOQ	1000
WOQ	Kansas City, Mo.	Unity Sch. of Christianity	WDAF	1000
KFRC	San Francisco, Cal.	Don Lee, Inc.		1000
[fol. 146] 620 Kilocycles:				
WLBZ	Dover-Foxcroft, Mo.	Thompson L. Guernsey		500
WDBO	Orlando, Fla.	Rollins College, Inc.	WDAE	1000
WDAE	Tampa, Fla.	Tampa Pub. Co.	WDBO	1000
WTMJ	Brookfield, Wis.	The Journal Co.		1000
KGW	Portland, Ore.	Oregonian Pub. Co.		1000
KFAD	Phoenix, Ariz.	Electrical Equipment Co.		500
630 Kilocycles (Canadian Shared):				
WMAL	Washington, D. C.	M. A. Lesee Co.		250
WOS	Jefferson City, Mo.	State Marketing Bureau	WGBF-KFRU	500
KFRU	Columbia, Mo.	Stephens College	WOS-WGBF	500
WGBF	Evansville, Ind.	Evansville on the Air, Inc.	WOS-KFRU	500

640 Kilocycles:

WAIU	Columbus, Ohio	American Ins. Union	5000 ltd. time
*KFI	Los Angeles, Cal.	Earl C. Anthony, Inc.	5000 (C. P. 50000)

650 Kilocycles:

*WSM	Nashville, Tenn.	Nat'l Life & Acc. Ins. Co.	5000 (C. P. 50000)

660 Kilocycles:

*WEAF	Bellmore, N. Y.	Nat'l Brdcstg. Co. Inc.	50000
WAAW	Omaha, Nebr.	Omaha Grain Exchange	500 dylt.

670 Kilocycles:

WMAQ	Chicago, Ill.	Chicago Daily News, Inc.	5000

680 Kilocycles:

WPTF	Raleigh, N. C.	Durham Life Ins. Col	(C. P. 10000)
KPO	San Francisco, Cal.	Hales Bros. & The Chronicle	5000

690 Kilocycles (Canadian Exclusive):

[fol. 147] 700 Kilocycles:

*WLW	Mason, Ohio	Crosley Radio Corp.	50000
KFVD	Culver City, Cal.	W. J. & C. I. McWhinnie	250 ltd. time

710 Kilocycles:

WOR	Newark, N. J.	L. Bamberger & Co.	5000

720 Kilocycles:

WGN-WLIB	Chicago, Ill.	The Tribune Co.	15000

730 Kilocycles (Canadian Exclusive):

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
740 Kilocycles:				
WSB	Atlanta, Ga.	Atlanta Journal Co.		10000
KMMJ	Clay Center, Nebr.	The M. M. Johnson Co.		1000 ltd. time
750 Kilocycles:				
WJR-WCX	Pontiac, Mich.	WJR, Incorporated		5000
760 Kilocycles:				
*WJZ	New York, N. Y.	Radio Corp. of America		30000
WEW	St. Louis, Mo.	St. Louis University		1000 dylt.
770 Kilocycles:				
KFAB	Lincoln, Nebr.	Nebraska Buick Auto Co.	WBBM	5000
*WBBM-WJBT	Chicago, Ill.	Atlas Investment Co.	KFAB	25000
780 Kilocycles (Canadian Shared):				
WBSO	Wellesley Hills, Mass.	Babson's Statistical Organ, Inc.		100 dylt.
WSEA	Portsmouth, Va.	Va. Brdcstg. Co. Inc.	WTAR-WPOR	500
WTAR-WPOR	Norfolk, Va.	Reliance Elec. Co. Inc.	WSEA	500
WMC	Memphis, Tenn.	Memphis Comm. Appeal. Inc.		500
KELW	Burbank, Cal.	Earl L. White	KNRC	500
KNRC	Santa Monica, Cal.	Pickwick Brdcstg. Corp.	KELW	500
790 Kilocycles:				
*WGY	Schenectady, N. Y.	Gen. Elec. Co.		50000 ltd. time
KGO	Oakland, Cal.	Gen. Elec. Co.		10000
[fol. 148] **800 Kilocycles:**				
WSAI	Mason, Ohio	Crosley Radio Corp. (Lessee)		5000 ltd. time
WBAP*	Ft. Worth, Texas	Carter Pub. Inc.	KTHS	50,000
KTHS	Hot Springs, Ark.	Hot Springs Cham. of Commerce	WBAP	5,000 C. P.

810 Kilocycles:

WPCH	New York, N. Y.	Concourse Radio Corp.		500 dylt.
WCCO	Minneapolis, Minn.	Washburn-Crosby Co.		10,000

820 Kilocycles:

WHAS	Louisville, Ky.	The Courier Journal Co. & The Louisville Times Co.		10,000 C. P.

830 Kilocycles:

KOA	Denver, Colo.	General Electric Co.		12,500

840 Kilocycles (Canadian Exclusive):

850 Kilocycles:

KWKH	Kennonwood, La.	W. K. Henderson	WWL	20,000
WWL	New Orleans, La.	Loyola University	KWKH	5,000 C. P.
KFQZ	Hollywood, Cal.	Taft Radio & Brdcstg. Co. Inc.		1000 Ltd. time

860 Kilocycles:

WABC-WBOQ	New York, N. Y.	Atlantic Brdcstg. Corp.		5000

870 Kilocycles:

WLS	Crete, Ill.	Sears-Roebuck & Co.	WENR-WBCN	5000
WENR-WBCN*	Chicago, Ill.	Great Lakes Radio Brdcstg. Co.	WLS	5000

880 Kilocycles (Canadian Shared):

WQAN	Scranton, Pa.	Scranton Times	WGBI	250
WGBI	Scranton, Pa.	Scranton Broadcasters Incorporated	WQAN	250
WCOC	Columbus, Miss.	Crystal Oil Co.		500
KLX	Oakland, Cal.	Tribune Pub. Co.		500
KPOF	Denver, Colo.	Pillar of Fire, Inc.	KFKA	500
KFKA	Greeley, Colo.	Colo. State Teachers College	KPOF	500

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
[fol. 149] 890 Kilocycles (Canadian Shared):				
WJAR	Providence, R. I.	The Outlet Co.		250
WMMN	Fairmont, W. Va.	Holt Rome Novelty Co.		500 daylt. 250 night
WMAZ	Macon, Ga.	Mercer Univ.	WGST	500 daylt. 250 night
WGST	Atlanta, Ga.	Ga. Sch. of Tech.	WMAZ	500 daylt. 250 night
KGJF	Little Rock, Ark.	First Ch. of Nazarene		250
WNAX	Yankton, S. D.	Gurney Seed & Nursery Co. & Radio Apparatus Co.	KFNF-KUSD	500
KUSD	Vermillion, S. D.	Univ. of S. Dak.	WNAX-KFNF	500
KFNF	Shenandoah, Iowa	Henry Field Seed Co.	WNAX-KUSD	500
900 Kilocycles:				
WFBL	Syracuse, N. Y.	The Onondaga Co. Inc.	WMAK	750
WMAK	Martinsville, N. Y.	WMAK Brdcstg. System, Inc.	WFBL	750
WKY	Okla. City, Okla.	WKY Radiophone Co.		1000
WFLA-WSUN	Clearwater, Fla.	Clearwater Chamber of Comm. & St. Petersburg Chamber of Comm.		1000
WLBL	Stevens Point, Wis.	Wisc. Dept. of Markets		5000 daylt.
KHJ	Los Angeles, Cal.	Don Lee, Inc.		1000
KSEI	Pocatello, Ida.	KSEI Brdcstg. Assn.		250
KGBU	Ketchikan, Alaska	Alaska Radio & Service Co.		500
910 Kilocycles (Canadian Exclusive):				
920 Kilocycles:				
WWJ	Detroit, Mich.	The Detroit News		1000
KPRC	Houston, Tex.	Houston Printing Co.		1000
WAAF	Chicago, Ill.	Drovers Journal Pub. Co.		500 Dayl.
KOMO	Seattle, Wash.	Fisher's Blend Station, Inc.		1000

[fol. 150] 930 Kilocycles (Canadian Shared):

WIBG	Elkins Park, Pa.	St. Paul's P. E. Church		50 dylt.
WDBJ	Roanoke, Va.	Richardson-Wayland Elec. Corp.		500 daylgt 250 night
WBRC	Birmingham, Ala.	Birmingham Brdcstg. Co. Inc.		500
KGBZ**	York, Nebr.	George R. Miller	KMA	500 C. P.
KMA	Shenandoah, Ia.	May Seed & Nursery Co.	KGBZ	500
KFWM	Oakland, Calif.	Oakland Educational Soc.	KFWI	500
KFWI	San Francisco, Calif.	Radio Entertainments, Inc.	KFWM	500

940 Kilocycles:

WCSH	Portland, Maine	Congress Sq. Hotel Co.		500
WFIW	Hopkinsville, Ky.	The Acme Mills, Inc.		1000
KOIN	Portland, Ore.	KOIN, Inc.		1000
KGU	Honolulu, T. H.	Marion A. Mulrony		500
KFEL	Denver, Colo.	Eugene P. O'Fallon, Inc.	KFXF	250
KFXF	Denver, Colo.	Pikes Peak Brdcstg. Co.	KFEL	250

950 Kilocycles:

WRC	Washington, D. C.	Radio Corp. of America		500
KMBC–KLDS	Independence, Mo.	Midland Brdcstg. Co. & The Reorganized Ch. of J. C. of Latter Day Saints	WHB	1000 ltd. to 9 p.m.
WHB	Kansas City, Mo.	Sweeney Automobile School Co.	KMBC–KLDS	1000
KFWB	Los Angeles, Calif.	Warner Bros. Brdcstg. Corp.	KPSN	1000
KPSN	Pasadena, Calif.	Pasadena Star-News Pub. Co.	KFWB	1000
KGHL	Billings, Mont.	Northwestern Auto Supply Co. Inc.		500

**Stations KGES, KGBY, KGCH, KGEO & KGDW to combine as KGBZ.

[fol. 151] 960 Kilocycles (Canadian Exclusive):

970 Kilocycles:

WCFL*	Chicago, Ill.	Chicago Fed. of Labor	50,000 C. P. Ltd. Time
KJR	Seattle, Wash.	Northwest Radio Serv. Co.	5,000

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
980 Kilocycles				
KDKA*	Pittsburgh, Pa.	Westinghouse E. & M. Co.		50,000
990 Kilocycles:				
WBZ	E. Springfield, Mass.	Westinghouse E. & M. Co.	WBZA	15,000
WBZA	Boston, Mass.	Westinghouse E. & M. Co.	WBZ	500
1000 Kilocycles:				
KGFH	Glendale, Calif.	Frederick Robinson		250 Ltd.
WHO	Des Moines, Iowa	Bankers Life Company	WOC	5000
WOC	Davenport, Iowa	Palmer School of Chiropractic	WHO	5000
1010 Kilocycles (Canadian Shared):				
WQAO–WPAP	New York, N. Y.	Calvary Baptist Ch.	WHN-WRNY	250
WHN	New York, N. Y.	George Schubel	WQAO–WPAP–WRNY	250
WRNY	New York, N. Y.	Experimenter Pub. Co.	WQAO–WPAP–WHN	250
KGGF	Picker, Okla.	D. L. Connell, M. D.	WNAD	500
WNAD	Norman, Okla.	Univ. of Okla.	KGGF	500
WJBB	Sarasota, Fla.	Sarasota County Cham. of Commerce		250
KQW	San Jose, Calif.	First Baptist Church		500
1020 Kilocycles:				
KYW–KFKX	Chicago, Ill.	Westinghouse E. & M. Co.		5000
1030 Kilocycles (Canadian Exclusive):				
1040 Kilocycles:				
WKEN	Buffalo, N. Y.	Radio Station WKEN, Inc.		1000 Limited Time
[fol. 152] 1040 Kilocycles—Cont'd.:				
WKAR	East Lansing, Mich.	Michigan State College		500 DYLT
*WFAA	Dallas, Tex.	Dallas Morning News	KRLD	5,000 C. P. 50,000
KRLD	Dallas, Tex.	KRLD, Inc.	*WFAA	10,000

1050 Kilocycles:				
*WFBM	Indianapolis, Ind.	Indianapolis Power & Lt. Co.		25,000 C. P. (limited time)
KNX	Hollywood, Calif.	Western Broadcast Co.		5,000
1060 Kilocycles:				
WBAL	Baltimore, Md.	Cons. Gas Elec. Lt. & Power Co.		
		WTIC		5,000
WTIC	Hartford, Conn.	Travelers Ins. Co.		(C. P. 50,000*)
(Temporarily assigned to 600 Kc, 250 watts, pending completion of transmitter.)				
WJAG	Norfolk, Nebr.	Norfolk Daily News		500 (limited time)
KWJJ	Portland, Ore.	Wilbur Jerman		500 (limited time)
1070 Kilocycles:				
WAAT	Jersey City, N. J.			300 Day till 6 PM but not after sunset at Cleveland, Ohio
WTAM	Cleveland, Ohio	WTAM & WEAR, Inc.	WEAR	3,500
WEAR	Cleveland, Ohio	WTAM & WEAR, Inc.	WTAM	1,000
WCAZ	Carthage, Ill.	Carthage College		100 Dayl.
WDZ	Tuscola, Ill.	James L. Bush		100 Dayl.
1080 Kilocycles:				
WBT	Charlotte, N. C.	C. C. Coddington		C. P. 10,000
WCBD	Zion, Ill.	Wilbur Glenn Voliva	WMBI	5,000 (limited time)
WMBI	Chicago, Ill.	The Moody Bible Inst. of Chicago.	WCBD	5,000 (limited time)
[fol. 153] 1090 Kilocycles:				
KMOX-KFQA	St. Louis, Mo.	Voice of St. Louis, Inc.		5,000

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
1100 Kilocycles:				
WPG	Atlantic City, N. J.	Municipality of Atlantic City	WLWL	5,000
WLWL	New York, N. Y.	Missionary Society of St. Paul the Apostle	WPG	5,000 (6 PM to 6 PM)
KJBS	San Francisco, Calif.	Julius Brunton & Sons Co.		100 Daylit
1110 Kilocycles:				
WRVA	Richmond, Va.	Laurus & Bro. Co. Inc.		5,000 C
KSOO	Sioux Falls, S. Dak.	Sioux Falls Brdcstg. Assn.		1,000 (limited time)
1120 Kilocycles:				
WFBR	Baltimore, Md.	Baltimore Radio Show, Inc.		250
WBAK	Harrisburg, Pa.	Pennsylvania State Police		500 (Daylit)
WCOA	Pensacola, Fla.	City of Pensacola		500
WTAW	College Station, Tex.	Agr. & Mech. College of Texas	KUT	500
KUT	Austin, Tex.	University of Texas	WTAW	500
WISN	Milwaukee, Wis.	Evening Wisconsin Co.	WHAD	250
WHAD	Milwaukee, Wis.	Marquette University	WISN	250
KFSG	Los Angeles, Calif.	Echo Park Evang. Assoc.	KMIC	500
KMIC	Inglewood, Calif.	James R. Fouch	KFSG	500
KRSC	Seattle, Wash.	Radio Sales Corp.		50 (Daylit)
1130 Kilocycles:				
WOV	New York, N. Y.	International Brdcstg. Corp.		1,000 Daylt. to 6 PM
KFKB	Milford, Kans.	The KFKB Brdcstg. Assoc.		5,000 (Limited Time)
KSL	Salt Lake City, Utah	Radio Service Corp. of Utah		5,000 CP

[fol. 154] 1140 Kilocycles:

WAPI	Auburn, Ala.	Alabama Polytechnic Inst.	KVOO	5,000 C. P.
KVOO	Tulsa, Okla.	Southwestern Sales Corp.	WAPI	5,000 C. P.

1150 Kilocycles:

WHAM	Rochester, N. Y.	Stromberg-Carlson Tel. Mfg. Co.		5,000
KGDM	Stockton, Cal.	E. F. Peffer		50 Daylit

1160 Kilocycles:

WEAN	Providence, R. I.	The Shepard Co.		500 Daylit
WWVA	Wheeling, W. Va.	West Virginia Brdcstg. Corp.	WOWO	5,000
WOWO	Ft. Wayne, Ind.	Main Auto Supply Co.	WWVA	5,000

1170 Kilocycles:

WCAU	Philadelphia, Pa.	Universal Brdcstg. Co.		5,000 C. P.
KTNT	Muscatine, Iowa	Norman Baker		5,000 (limited time)

1180 Kilocycles:

WGBS	Astoria, L. I.	Gimbel Bros., Inc.		500 (limited time)
WJJD	Mooseheart, Ill.	Supreme Lodge of the World, Loyal Order of Moose		C. P. 20,000 (limited time)
KEX	Portland, Ore.	Western Brdcstg. Co.	KOB	5,000
KOB	State College, N. M.	N. M. College Agri. & Mech. Arts	KEX	10,000

1190 Kilocycles:

WRR	Dallas, Tex.	City of Dallas	WOAI	5,000 C. P.
WOAI	San Antonio, Tex.	Southern Equipment Co.	WRR	5,000

[fol. 155] 1200 Kilocycles (Local):

WABI	Bangor, Me.	First Universalist Church		100
WCAX	Burlington, Vt.	University of Vermont	WNBX	100
WEPS	Gloucester, Mass.	Matheson Radio Co. Inc.	WKBE	100

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
WIBX	Utica, N. Y.	WIBX, Inc.		100
WKBE	Webster, Mass.	K. & B Electric Co.	WEPS	100
WNBX	Springfield, Vt.	FIRST CONG. CHURCH Corp.	WCAX	10
WBBW	Norfolk, Va.	Ruffner Junior High School		100
WFBE	Cincinnati, O.	Parkview Hotel		100
WHBC	Canton, O.	St. John's Catholic Church		10
WLAP	Okalona, Ky.	Am. Brdcstg. Corp. of Ky.		30
WLBG	Petersburg, Va.	Robert Allen Gamble		100
WNBO	Washington, Pa.	John Brownlee Spriggs		15
WNBW	Carbondale, Pa.	Home Cut Glass & China Co.		5
WPRC	Harrisburg, Pa.	Wilson Printing & Radio Co.	WKJC	100
WKJC	Lancaster, Pa.	Kirk Johnson & Co.	WPRC	100
WQBJ	Clarkesburg, W. Va	John Raikes		65 C. P.
WABZ	New Orleans, La.	Coliseum Place Bapt. Church	WJBW	100
WJBW	New Orleans, La.	C. Carlson, Jr.	WABZ	30
WBBY	Charleston, S. C	Washington Light Infantry		75
WBBZ	Ponca City, Okla.	C. L. Carrell		100
WFBC	Knoxville, Tenn.	First Baptist Church		50
WRBL	Columbus, Ga.	R. E. Martin		50
KGCU	Mandan, N. D.	Mandan Radio Assn.		100
WJBC	LaSalle, Ill.	Hummer Furniture Co.	WJBL	100
WJBL	Decatur, Ill.	Wm. Gushard Dry Goods Co.	WJBC	100
WWAE	Hammond, Ind.	Dr. Geo. F. Courrier	WRAF	100
WRAF	LaPorte, Ind.	The Radio Club, Inc.	WWAE	100
WJAM	Waterloo, Ia.	Waterloo Brdcstg. Co.	KFJB	100
KFJB	Marshalltown, Ia.	Marshall Electric Co.	WJAM	100
WCAT	Rapid City, S. D.	S. D. State School of Mines		100
KGDY	Oldham, S. D.	J. Albert Loesch		15
WMAY	St. Louis, Mo.	Kingshighway Pres. Church	KFWF	100
KFWF	St. Louis, Mo.	St. Louis Truth Center, Inc.	WMAY	100
KFKZ	Kirksville, Mo.	Northeast Mo. State Teachers College		50
KGDE	Barrett, Minn.	Jaren Drug Co.		50
KGFK	Hallock, Minn.	Kittson County Enterprise		50
WCLO	Kenesha, Wis.	C. E. Whitmore	WRJN	100

WHBY	West DePere, Wis.	St. Norbert's College		50
WRJN	Racine, Wis.	Racine Broadcasting Corp.	WCLO	100
KFWC	Ontario, Calif.	James R. Fouch	KPPC	100
KPPC	Pasadena, Calif.	Pasadena Presbyterian Church	KFWC	50
KGEN	El Centro, Calif	E. R. Irey & F. M. Bowles		100
KMJ	Fresno, Calif.	The Fresno Bee		100
KSMR	Santa Maria, Calif.	Santa Maria Valley R. R. Co.		100
KWG	Stockton, Calif.	Portable Wireless Tel. Co.		100
KGEW	Ft. Morgan, Colo.	City of Ft. Morgan	KGEK	100
KGEK	Yuma, Colo.	Beehler Elec. Egirig. Co.	KGEW	50
KFHA	Gunnison, Colo.	Western State College of Colo.		50
KVOS	Bellingham, Wash.	L. Kessler		100
KGY	Lacey, Wash.	Saint Martin's College (50 day)		10 night

[fol. 156] 1210 Kilocycles:

WJBI	Redbank, N. J.	Robert S. Johnson	WCOH–WGBB–WINR	100
WGBB	Freeport, N. Y.	Harry H. Carman	WCOH–WJBI–WINR	100
WINR	Bayshore, N. Y.	Radiotel. Mfg. Co. Inc	WCOH–WJBI–WGBB	100
WCOH	Greenville, N. Y.	Westchester Brdcstg. Corp.	WJBL–WGBB–WINR	100
WOCL	Jamestown, N. Y.	A. E. Newton		25
WLCI	Ithaca, N. Y.	Lutheran Assn. of Ithaca		50
WFCI	Pawtucket, R. I.	Frank Crook, Inc.	WDWF–WLSI	100
WDWF–WLSI	Cranston, R. I.	Dutee W. Flint & The Lincoln Studies, Inc.	WFCI	100
WMAN	Columbus, O.	W. E. Hoskitt		50
WLBV	Mansfield, O	Mansfield Brdcstg. Assn.		100
WEBE	Cambridge, O	Roy W. Waller		100
WBAX	Wilkes Barre, Pa.	John H. Stenger, Jr.	WJBU	100
WJBU	Lewisburg, Pa.	Bucknell University	WBAX	100
WTAZ	Richmond, Va.	W. Reynolds, Jr. & T. J. McGuire	WMBG	150
WMBG	Richmond, Va.	Havens & Martin, Inc.	WTAZ	100
WSIX	Springfield, Tenn.	638 Tire & Vulcanizing Co.		100
WRBU	Gastonia, N. C	A. J. Kirby Music Co.		100
WJBY	Gadsden, Ala.	Electric Cons. Co.		50
WMBR	Tampa, Fla.	F. J. Reynolds		100
WRBQ	Greenville, Miss.	J. Pat Scully		100

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
WGCM	Gulfport, Miss.	Golf Coast Music Col., Inc.		100
KFDX	Shreveport, La.	First Baptist Church	KWEA	100
KWEA	Shreveport, La.	William E. Antony	KFDX	100
KDLR	Devils Lake, N. D.	Radio Electric Co.		100
KGCR	Brookings, S. D.	Cutler's Brdcstg. Service		100
KFOR	Lincoln, Nebr.	Howard A. Shuman		100
WHBU	Anderson, Ind.	Citizens Bank		100
KFVS	Cape Girardeau, Mo.	Hirsch Battery & Radio Co.	WEBQ	100
WEBQ	Harrisburg, Ill.	Tate Radio Co.	KFVS	50
WSBC	Chicago, Ill.	World Battery Co.	WEDC–WCRW	100
WCRW	Chicago, Ill.	Clinton R. White	WEDC—WSBC	100
WEDC	Chicago, Ill.	Emil Denemark, Inc.	WSBC–WCRW	100
WCBS	Springfield, Ill.	Harold L. Dewing & Chas. Messter	WTAX	100
WTAX	Streator, Ill.	Williams Hardware Co.	WCBS	50
WHBF	Rock Island, Ill.	Beardsley Spec. Co.		100
WIBA	Madison, Wis.	Cap. Times-Strand Theatre Sta.		100
WOMT	Manitowoc, Wis.	Mikadow Theatre		100
KGDP	Pueblo, Colo.	Pueblo Council, Boy Scouts of Amer.		10
KFEY	Kellogg, Idaho	Union High School		10
KPQ	Seattle, Wash.	Archie Taft & Louis Wasmer	KPCB	100
KPCB	Seattle, Wash.	Pacific Coast Biscuit Co.	KPQ	100
[fol. 157] 1220 Kilocycles:				
WCAD	Canton, N. Y.	St. Lawrence University		500 Daylt.
WCAE	Pittsburgh, Pa.	Kaufman & Baer Co.		500
WREN	Lawrence, Kansas	Jenny Wren Company	KFKU	1000
KFKU	Lawrence, Kansas	University of Kansas	WREN	1000

1230 Kilocycles:

WNAC-WBIS	Boston, Mass	The Shepard Stores		500	
WPSC	State College, Pa	Penn. State College		500	Daylt.
WSBT	South Bend, Ind	South Bend Tribune	WFBM-WCWK	500	
WFBM	Indianapolis, Ind	Indianapolis Power & Light Co	WCWK-WSBT	500	
WCWK	Ft. Wayne, Ind	Chester, W. Keen	WFBM-WSBT	500	
KYA	San Francisco, Calif	Pacific Brdstg. Corp		1000	
KFIO	Spokane, Wash	North Central High School		100	Daylt.
KFQD	Anchorage, Alaska	Anchorage Radio Club		100	

1240 Kilocycles:

WGHP	Fraser, Mich	Geo. Harrison Phelps, Inc		750	
KFQB	Ft. Worth, Tex	W. B. Fishburn, Inc	WJAD	1000	
WJAD	Waco, Tex	Frank P. Jackson	KFQB	1000	
WQAM	Miami, Fla	Elec. Equipment Co	WIOD	750	
WIOD	Miami Beach, Fla	Isle of Dreams Brdstg. Co	WQAM	1000	
WRBC	Valparaiso, Ind	Immanuel Lutheran Church		500	Daylt.

1250 Kilocycles:

WGCP	Newark, N. J	May Radio Brodstg. Corp	WODA-WAAM	500	
WODA	Paterson, N. J	Richard R. O'Dea	WAAM-WGCP	1000	
WAAM	Newark, N. J	WAAM, Inc	WODA-WGCP	250	
WLB-WGMS	Minneapolis, Minn	University of Minn	WRHM-KFMX-WCAL	1000	
WRHM	Fridley, Minn	Rosedale Hospital Co. Inc	WLB-KFMX-WCAL	1000	
KFMX	Northfield, Minn	Carleton College	WLB-WRHM-WCAL	1000	
WCAL	Northfield, Minn	St. Olaf College	WLB-WRHM-KFMX	1000	
KFON	Long Beach, Calif	Nichols & Warinner, Inc	KEJK	1000	
KEJK	Beverly Hills, Calif	R. S. Macmillan	KFON	500	
KXL	Portland, Ore	KXL Broadcasters, Inc	KFAU	500	
KFAU	Boise, Idaho	Frank L. Hill & C. G. Phillips. D/B as Boise Broadcast Station.	KXL	1000	

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
[fol. 158] 1260 Kilocycles:				
WLBW	Oil City, Pa	Petroleum Telephone Co		500
WJAX	Jacksonville, Fla	City of Jacksonville		1000
KWWG	Brownsville, Tex	Chamber of Commerce	KRGV	500
KRGV	Harlingen, Tex	Harlingen Music Co	KWWG	500
KOIL	Council Bluffs, Ia	Mona Motor Oil Co		0100
1270 Kilocycles:				
WRHF	Washington, D. C	American Brdcstg. Co		150 Dayl.
WEAI	Ithaca, N. Y	Cornell University		500 Dayl.
WASH	Grand Rapids, Mich	Baxter Laundries, Inc	WOOD	250
WOOD	Grand Rapids, Mich	Walter B. Stiles, Inc	WASH	500
WDSU	New Orleans, La	Joseph H. Uhalt		1000
KWLC	Decorah, Ia	Luther College	KGCA	50 Dayl.
KGCA	Decorah, Ia	Chas. W. Greenley	KWLC	50 Dayl.
KTW	Seattle, Wash	First Pres. Church	KFOA	1000
KFOA	Seattle, Wash	Rhodes Department Stores	KTW	1000
KFUM	Colorado Springs, Colo	W. D. Corley		1000
1280 Kilocycles:				
WCAM	Camden, N. J	City of Camden	WOAX-WCAP	500
WCAP	Asbury Park, N. J	Radio Industries Brdcstg. Co	WCAM-WOAX	500
WOAX	Trenton, N. J	Franklyn J. Wolff	WCAM-WCAP	500
WDOD	Chattanooga, Tenn	Chattanooga Radio Co., Inc		1000
WDAY	Fargo, N. D	WDAY, Inc	WEBC	1000
WEBC	Superior, Wis	Head of the Lakes Brdcstg. Co	WDAY	1000
KTAB	Oakland, Calif	Associated Broadcasters		500

[fol. 159] 1290 Kilocycles:

WNBZ	Saranac Lake, N. Y.	Smith & Mace		10 Daylt.
WJAS	Pittsburgh, Pa	Pittsburgh Radio Supply House		1000
KTSA	San Antonio, Tex	Lone Star Brdst. Co., Inc	KFUL	1000
KFUL	Galveston, Tex	Will H. Ford	KTSA	500
				1000 Daylt.
KLCN	Blytheville, Ark	Daily Courier News		50 Daylt.
KDYL	Salt Lake City, Utah	Intermountain Brdcstg. Corp		1000

1300 Kilocycles:

WBBR	Rossville, N. Y.	Peoples Pulpit Assn	WHAP-WEVD-WHAZ	1000
WHAP	New York, N. Y.	Defenders of Truth Assn. Inc.	WBBR-WEVD-WHAZ	1000
WEVD	Woodhaven, N. Y.	Debs Memorial Radio Fund	WBBR-WHAP-WHAZ	500
WHAZ	Troy, N. Y.	Rensselaer Poly. Inst	WBBR-WHAP-WEVD	500
KFH	Wichita, Kansas	Hotel Lassen	WIBW	1000
WIBW	Topeka, Kansas	C. L. Carrell	KFH	1000
KGEF	Los Angeles, Calif	Trinity Methodist Church	KTBI	1000
KTBI	Los Angeles, Calif	Bible Inst. of Los Angeles	KGEF	1000
KFJR	Portland, Ore	Ashley C. Dixon & Son	KTBR	500
KTBR	Portland, Ore	M. E. Brown	KFJR	500

[fol. 160] 1310 Kilocycles:

WKAV	Laconia, N. H	Laconia Radio Club		50
WEBR	Buffalo, N. Y.	H. H. Howell		100
WSMD	Salisbury, Md	Tom F. Little		100
WNBH	New Bedford, Mass	New Beford Brdcstg. Co		100
WNEW	Newport News, Va	Va. Brdcstg. Co., Inc		100
WRK	Hamilton, O	S. W. Doran & John C. Slade		100
WAGM	Royal Oak, Mich	Robert L. Miller	WBMH	50
WBMH	Detroit, Mich	Braun's Music House	WAGM	100
WFDF	Flint, Mich	Frank D. Fallain		100
WNAT	Philadelphia, Pa	Lennig Bros. Co	WFKD-WABY	100
WABY	Philadelphia, Pa	John Magaldi, Jr	WFKD-WNAT	50
WFKD	Frankford, Pa	Foulkrod Radio Eng. Co	WNAT-WABY	50
WHBP	Johnstown, Pa	Johnstown Auto Co	WEBG	100

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
1310 Kilocycles:				
WFBG	Altoona, Pa	William F. Gable Co	WHBP	100
WRAW	Reading, Pa	Ave. Radio & Elec. Shop	WGAL	100
WGAL	Lancaster, Pa	Lancaster Elec. Sup. & Cons. Co	WRAW	15
WSAJ	Grove City, Pa	Grove City College		100
WBRE	Wilkes-Barre, Pa	Louis G. Baltimore		100
WMBL	Lakeland, Fla	Benford's Radio Studios		100
WKBC	Birmingham, Ala	H. L. Ansley		10
WRBW	Columbia, S. C	Paul S. Pearce		100
KGHG	McGeohee, Ark	Charles W. McCollum		50
WTHS	Atlanta, Ga	Atlanta Tech. High School	WRBI	100
WRBI	Tifton, Ga	Kents Furn. & Music Store	WTHS	20
WOBT	Union City, Tenn	Tittsworth's Radio & Music Shop		15
WNBJ	Knoxville, Tenn	Lonsdale Baptist Church		50
KRMD	Shreveport, La	Robert M. Dean	KGGH	50
KGGH	Cedar Grove, La	Bates Radio & Elec. Co	KRMD	50
[fol. 161]				
KFPM	Greenville, Tex	The New Furniture Co		15
WDAH	El Paso, Tex	Trinity Methodist Church		100
KGFI	San Angelo, Tex	San Angelo Brdcstg. Co		100
KFPL	Dublin, Tex	C. C. Baxter		15
KFXR	Okla. City, Okla	Exchange Ave. Baptist Church		100
WKBS	Galesburg, Ill	Permil N. Nelson	WLBO	100
WLBO	Galesburg, Ill	Fred A. Trebbe, Jr	WKBS	100
WEHS	Evanston, Ill	Victor C. Carlson	WCLS-WKBB-WKBI-WHFC	100
WCLS	Joliet, Ill	WCLS, Inc	WEHS-WKBB-WKBI-WHFC	100
WKBB	Joliet, Ill	Sanders Bros	WEHS-WCLS-WKBI-WHFC	100
WKBI	Chicago, Ill	Fred Schoenwolf	WEHS-WCLS-WKBB-WHFC	50
WHFC	Chicago, Ill	Goodson & Wilson, Inc	WEHS-WCLS-WKBB-WKBI	100
KWCR	Cedar Rapids, Ia	Harry F. Paar	KFJY	100
KFJY	Ft. Dodge, Ia	C. S. Tunwall	KWCR	100

KFGQ	Boone, Ia	Boone Biblical College			10
WBOW	Terre Haute, Ind	Banks of Wabash Brdcstg. Assn			100
WJAK	Kokomo, Ind	J. A. Kautz (Kokomo Tribune)	WLBC		50
WLBC	Muncie, Ind	Donald A. Burton	WJAK		50
WIBU	Poynette, Wis	William C. Forrest			100
KFBK	Sacramento, Calif	Kimball-Upson Co			100
KFCB	Phoenix, Ariz	Nielson Radio Supply Co			100
KFIU	Juneau, Alaska	Alaska Elec. Light & Power Co			10
KGEZ	Kalispell, Mont	Flathead Brdcstg. Assn			100
KFXJ	Edgewater, Colo	R. G. Howell	KFUP		50
KFUP	Denver, Colo	Fitzsimmons General Hospital	KFXJ		100

[fol. 162] 1320 Kilocycles:

WADC	Akron, Ohio	Allen T. Simmons			1000
WSMB	New Orleans, La	Saenger Theatres, Inc. & Maison Blanche Co			750
KGIO	Idaho Falls, Ida	Jack W. Duckworth, Jr	(KGIQ)		250
KGIQ	Twin Falls, Ida	Stanley M. Soule	(KGIO)		250
KGHF	Pueblo, Colo	Curtis P. Ritchie & Joe E. Finch			250
KGHB	Honolulu, Hawaii	Radio Sales Co			250

1330 Kilocycles:

WDRC	New Haven, Conn	Doolittle Radio Corp	(WCAC)		500
WCAC	Storrs, Conn	Conn. Agri. College	(WDRC)		500
WTAQ	Eau Claire, Wis	Gillette Rubber Co	(KSCJ)		1000
KSCJ	Sioux City, Ia	Perkins Bros. Co	(WTAQ)		1000

1340 Kilocycles:

WSPD	Toledo, Ohio	Toledo Brdcstg. Co			500
KFPW	Siloam Springs, Ark	Rev. Lannie P. Stewart			50 dylt.
KMO	Tacoma, Wash	KMO, Inc	(KVI)		500
KVI	Nr. Des Moines, Wash	Puget Sound Radio Brdcstg. Co	(KMO)		1000

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
1350 Kilocycles:				
WBNY	New York, N. Y.	Baruchrome Corp	WMSG-WCDA-WKBQ	250
WMSG	" " " "	Madison Sq. Garden Brdcstg. Corp.	WBNY-WCDA-WKBQ	250
WCDA	" " " "	Italian Educational Brdcstg. Co	WBNY-WMSG-WKBQ	250
WKBQ	" " " "	Standard Cahill Co., Inc	WBNY-WMSG-WCDA	250
KWK	St. Louis, Mo	Greater St. Louis Brdcstg. Corp	(WIL)	1000
WIL	" " "	Mo. Brdcstg. Corp	(KWK)	1000
1360 Kilocycles:				
WBET	Medford, Mass	Boston Transcript Co	(WMAF)	500
WMAF	S. Dartmouth, Mass	Round Hills Radio Corp	(WBET)	500
WQBC	Utica, Miss	Utica Chamber of Commerce, Inc		300
WJKS	Gary, Ind	Johnson-Kennedy Radio Corp	(WGES)	500
WGES	Chicago, Ill	Oak Leaves Brdcstg. Corp., Inc	(WJKS)	500
KFBB	Havre, Mont	Buttrey Broadcast, Inc	(KGIR)	500 dylt. 250 night
KGIR	Butte, Mont	Symons Brdcstg. Co	(KFBB)	250
KGB	San Diego, Calif	Southwestern Brdcstg. Corp		250
[fol. 163] 1370 Kilocycles—Continued:				
WMBO	Auburn, N. Y	Radio Service Lab's		1000
WSVS	Buffalo, N. Y	Seneca Vocational School		50
WCBM	Baltimore, Md	Hotel Chateau		100
WEAM	Plainfield, N. J	W. J. Buttfield	WIAD	100
WBBL	Richmond, Va	Grace Covenant Pres. Church		100
WHBD	Bellefontaine, O	First Pres. Church		100
WJBK	Ypsilanti, Mich	Ernest G. Goodwin	WIBM	50
WIBM	Jackson, Mich	C. L. Carrell	WJBK	100
WRAK	Erie, Pa	C. R. Cummins		50
WIAD	Philadelphia, Pa	Howard R. Miller	WEAM	100
WJBO	New Orleans, La	Valdemar Jenson		100

1370 Kilocycles—Continued:

WHBQ	Memphis, Tenn	Brdcstg. Station WHBQ, Inc		100
WRBT	Wilmington, N. C	Wilmington Radio Asso		50
KGFG	Okla. City, Okla	Faith Tabernacle Assn., Inc	KGCB	50
KGCB	Enid, Okla	Wallace Radio Inst	KGFG	100
KGCI	San Antonio, Tex	Liberto Radio Sales	KGRC	100
KGRC	San Antonio, Tex	Eugene J. Roth	KGCI	100
KFJZ	Ft. Worth, Tex	Henry Clay Allison		100
KGKL	Georgetown, Tex	M. L. Cates		100
KFLX	Galveston, Tex	George Roy Clough		100
WFBJ	Collegeville, Minn	St. Johns University		100
KGDA	Dell Rapids, S. D	Home Auto Co		15
KWKC	Kansas City, Mo	Wilson Duncan Brdcstg. Co	KGBX	100
KGBX	St. Joseph, Mo	Foster-Hall Tire Co	KWKC	100

[fol. 164] 1370 Kilocycles—Continued:

KGAR	Tucson, Ariz	Citizens Pub. Co		100
KFUR	Ogden, Utah	Peery Building Co		50
KOH	Reno, Nevada	Jay Peters, Inc		100
KZM	Hayward, Calif	Leon P. Tenney	KRE	100
KRE	Berkeley, Calif	First Cong. Church	KZM	100
KGER	Long Beach, Cali'	C. Marwin Dobynes		100
KFBL	Everett, Wash	Leese Bros	KVL	50
KFEC	Portland, Ore	Meir & Frank Co	KFJI	100
KVL	Seattle, Wash	Arthur C. Baily	KFBL	100
KFJI	Astoria, Ore	George Kincaid	KFEC	50
KGFL	Raton, N. M	Lamont A. Hubbard		50
KGGM	Albuquerque, N. M	Jay Peters		100

1380 Kilocycles:

WCSO	Springfield, Ohio	Wittenberg, College	KQV	500
KQV	Pittsburgh, Pa	Doubleday-Hill Elec. Co	WCSO	500
KSO	Clarinda, Ia	Berry Seed Co	WKBH	1000
WKBH	LaCrosse, Wis	Callaway Music Co	KSO	1000

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
1390 Kilocycles:				
WHK	Cleveland, Ohio	Radio Air Service Corp		1000
KLRA	Little Rock, Ark	Arkansas Brdcstg. Co	KUOA	1000
KUOA	Fayetteville, Ark	University of Arkansas	KLRA	1000
KOW	Denver, Colo	Associated Industries, Brdcstg. Inc		500
KWSC	Pullman, Wash	St. College of Wash	KFPY	500
KFPY	Spokane, Wash	Symons Investment Co	KWSC	500
1400 Kilocycles:				
WCGU	Coney Island, N. Y	U. S. Brdcstg. Corp	WSGH–WSDA–WLTH–WBBC	500
WSGH–WSDA	Brooklyn, N. Y	Amateur Radio Spec. Co	WCGU–WLTH–WBBC	500
WLTH	Brooklyn, N. Y	Voice of Brooklyn, Inc	WCGU–WSGH	500
WLTH	Brooklyn, N. Y	Voice of Brooklyn, Inc	WCGU–WSGH–WSDA–WBBC	500
WBBC	Brooklyn, N. Y	Brooklyn Brdcstg. Corp	WCGU–WSGH–WSDA–WLTH	500
WBAA	LaFayette, Ind	Purdue University	WCMA–WKBF	500
WCMA	Culver, Ind	Culver Military Academy	WBAA–WKBF	500
WKBF	Indianapolis, Ind	Noble Butler Watson	WBAA–WCMA	500
[fol. 165] 1410 Kilocycles:				
WDEL	Wilmington, Del	WDEL, Inc		500
WSKC	Bay City, Mich	James E. Davidson		500
KGRS	Amarillo, Texas	Gish Radio Service	WDAG	1000
WDAG	Amarillo, Texas	J. Laurence Martin	KGRS	1000
WHDI	Minneapolis, Minn	Wm. Hood Dunwoody Industrial Inst.	WDGY–KFLV–WHBL	500
WDGY	Minneapolis, Minn	Dr. George W. Young	WHDI–KFLV–WHBL	500
KFLV	Rockford, Ill	A. T. Frykman	WHDI–WDGY–WHBL	500
WHBL	Sheboygan, Wisc	Press Pub. Co. & C. L. Carrell	KFLV–WDGY–WHDI	500

1420 Kilocycles:

KFXY	Flagstaff, Ariz	Mary M. Costigan		100
KGFJ	Los Angeles, Calif	Ben S. McGlashan		100
KFQU	Holy City, Calif	W. E. Riker	KGTT	100
KGTT	San Francisco, Calif	Glad Tidings Temple & Bible Inst.	KFQU	50
KFXD	Jerome, Idaho	Service Radio Co		50
KGHD	Missoula, Mont	Elmore Nash Brdcstg. Corp		50
KGCX	Vida, Mont	First State Bank of Vida		10
KFIF	Portland, Ore	Benson Polytechnic School		50
KMED	Medford, Ore	W. J. Virgin		50
KORE	Eugene, Ore	Eugene Broadcast Station		100
KKP	Seattle, Wash	City of Seattle Harbor Dept	KFQW	15
KFQW	Seattle, Wash	KFQW, Inc	KKP	100
KXRO	Aberdeen, Wash	KXRO, Inc		75
WLBH	Farmingdale, N. Y	Joseph J. Lombardi	WHPP-WMRJ	30
WHPP	New York, N. Y	Bronx Brdcstg. Co	WLBH-WMRJ	10
WMRJ	Jamaica, N. Y	Peter J. Prinz	WLBH-WHPP	10
WLEX	Lexington Mass	Lexington Air Station	WSSH (250 day)	100
WTBO	Cumberland, Md	Cumberland Electric Co		50
WSSH	Boston, Mass	Tremont Temple Baptist Ch	WLEX	100
WSRO	Middeltown, O	Harry W. Farhlander	WAAD	100
WIBR	Steubenville, O	Thurman A. Owings	WQBZ	50
WAAD	Cincinnati, O	Ohio Mechanics Inst	WSRO	25
WEDH	Erie, Pa	Erie Dispatch Herald		30
WMBC	Detroit, Mich	Mich. Brdcstg. Co. Inc		100
WKBP	Battle Creek, Mich	Enquirer News Co		50
WQBZ	Weirton, W. Va	J. H. Thompson	WIBR	60
KGFF	Alva, Okla	Earl E. Hampshire		100
KOCW	Chickasha, Okla	Chickasha Brdcst., Co		100
WKBT	New Orleans, La	First Baptist Church		50
KTAP	San Antonio, Tex	Robert B. Bridge		100
KTUE	Houston, Tex	Uhalt Electric		5
KFYO	Breckenridge, Tex	Kirksey Bros. Battery & Electric Co		100

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
[fol. 166] 1420 Kilocycles—Continued:				
KICK	Red Oak, Iowa	Atlantic Automobile Co., Red Oak Radio Corp. Lessee		100
WIAS	Ottumwa, Iowa	Poling Electric Co		100
KGCN	Concordia, Kans	Concordia Brdcstg. Co		50
WLBF	Kansas City, Kans	Everett L. Dillard		100
WMBH	Joplin, Mo	Edwin Dudley Aber		100
KGFW	Ravenna, Nebr	Otto F. Sothman		50
KFIZ	Fond du Lac, Wis	Fond du Lac Commonwealth Reporter		100
1430 Kilocycles:				
WICC	Easton, Conn	Bridgeport Brdcstg. Sta., Inc	WBRL	500
WBRL	Tilton, N. H	Booth Radio Laboratories	WICC	500
WMBS	Lemoyne, Pa	Mack's Battery Co	WCAH	500
WCAH	Columbus, Ohio	Commercial Radio Service Co	WMBS	250
WGBC	Memphis, Tenn	First Baptist Church (Sunday only)	WNBR	500
WNBR	Memphis, Tenn	John Ulrich	WGBC	500
1440 Kilocycles:				
WHEC–WABO	Rochester, N. Y	Hickson Electric Co., Inc	WMAC–WOKO	500
WMAC	Cazenovia, N. Y	Clive B. Meredith	WOKO–WHEC–WABO	500
WOKO	Mt. Beacon, N. Y	Harold E. Smith	WHEC–WABO–WMAC	500
WABF	Kingston, Pa	Markle Brdcstg. Corp	WRAX	250
WRAX	Philadelphia, Pa	Berachah Church, Inc	WABF	250
WNRC	Greensboro, N. C	Wayne M. Nelson		500
WTAD	Quincy, Ill	Ill. Stock Medicine Brdcstg. Corp	WMBD	500
WMBD	Peoria Hts., Ill	Peoria Heights Radio Lab	WTAD	500
KLS	Oakland, Calif	Warner Bros		250 dayl.

[fol. 167] 1450 Kilocycles:

WBMS	Union City, N. J.	WBMS Brcstg. Corp.	See Notes	250
WNJ	Newark, N. J.	Radio Investment Co.	" "	250
WIBS	Elizabeth, N. J.	New Jersey Brdcstg. Co.	" "	250
WKBO	Jersey City, N. J.	Camith Corp.	" "	250
WSAR	Fall River, Mass.	Doughty & Welch Elec. Co., Inc.		250

Note: WBMS, WNJ, WIBS and WKBO divide time with each other.

WJAY	Cleveland, Ohio	Cleveland Radio Brdcstg. Corp.	WFJC	500
WFJC	Akron, Ohio	W. F. Jones Brdcstg., Inc.	WJAY	500
KSBA	Shreveport, La.	W. G. Patterson		1000
WTFI	Toccoa, Ga.	Toccoa Falls Institute		500

1460 Kilocycles:

WTFF	Mt. Vernon Hills, Va.	Independent Pub. Co.		10000
KSTP	Westcott, Minn.	National Battery Brdcstg. Co.		10000

1470 Kilocycles:

WKBW	Amherst, N. Y.	Churchill Evang. Assn., Inc.		5000
KFJF	Oklahoma City, Okla.	National Radio Mfg. Co.		5000
WRUF	Gainesville, Fla.	Univ. Radio Service Co.		5000
KGA	Spokane, Wash.	Northwest Radio Service Co.		5000

1480 Kilocycles:

WJAZ	Mt. Prospect, Il.	Zenith Radio Corp.	WHT–WORD–WIBO	5000
WHT	Deerfield, Ill.	Radiophone Brdcstg. Corp.	WJAZ–WORD–WIBO	5000
WORD	Batavia, Ill.	Peoples Pulpit Assoc.	WJAZ–WHT–WIBO	5000
WIBO	Desplaines, Ill.	Nelson Bros. Bond & Mortgage Co.	WJAZ–WHT–WORD	5000

1490 Kilocycles:

WBAW	Nashville, Tenn.	Waldrum Drug Company	WLAC	5000
WLAC	Nashville, Tenn.	Life & Casualty Ins. Co.	WBAW	5000

[fol. 168] 1500 Kilocycles:

WMBA	Newport, R. I.	LeRoy Joseph Beebe		100
WLOE	Chelsea, Mass.	William S. Pote	WMES	100
WMES	Boston, Mass.	Mass. Educ'l. Society	WLOE	50

Revised List of Broadcasting Stations, etc.—Continued

Call letters.	Location.	Owner.	Divides time with.	Power.
1500 Kilocycles:				
WNBQ	Rochester, N. Y.	Gordon P. Brown		15
WNBF	Endicott, N. Y.	Howitt-Wood Radio Co.		50
WMBQ	Brooklyn, N. Y.	Paul J. Gollhofer	WLBX–WCLB–WWRL	100
			WMBQ–WCLB–WWRL	100
WLBX	Long Island City, N. Y.	John N. Brahy	WMBQ–WCLB–WWRL	100
WCLB	Long Beach, N. Y.	Arthur Faske	WMBQ–WLBX–WWRL	100
WWRL	Woodside, N. Y.	William H. Reuman	WMBQ–WLBX–WCLB	100
WTBQ	Wilmington, Del.	E. Brandt Boylan		100
WAFD	Detroit, Mich.	Albert B. Parfet Co.		100
WKBZ	Ludington, Mich.	K. L. Ashbacker		50
WMPC	Lapeer, Mich.	First Meth. Protestant Church		30
WCBA	Allentown, Pa.	B. Bryan Musselman	WSAN	100
WSAN	Allentown, Pa.	Allentown Call Pub. Co., Inc.	WCBA	100
WALK	Willow Grove, Pa.	Albert A. Walker	WHBW–WOO–WPSW	50
WOO	Philadelphia, Pa.	John Wanamaker	WHBW–WALK–WPSW	100
WHBW	Philadelphia, Pa.	D. R. Kienzle	WALK–WOO–WPSW	100
WPSW	Philadelphia, Pa.	Philadelphia School of Wireless Telegraphy	WALK–WHBW–WOO	50
WIBZ	Montgomery, Ala.	Alexander D. Trum		15
KGHI	Little Rock, Ark.	Berea Bible Class		100
WRBJ	Hattiesburg, Miss.	Woodruff Furn. Co.		10
WMBM	Memphis, Tenn.	Seventh Day Adv. Church		10
KGKB	Goldthwaite, Tex.	Eagle Pub. Co.		100
KGDR	San Antonio, Tex.	Joe B. McShane		100
[fol. 169] KGHX	Richmond, Tex.	Ft. Bend County School Board		50
WKBV	Brookville, Ind.	Knox Battery & Elec. Co.		100
KPJM	Prescott, Ariz.	Frank Wilburn		100
KWBS	Portland, Oreg.	Schaeffer Radio Co.		15
KWTC	Santa Anna, Calif.	Pacific Broadcast. Fed.	KFWO	100
KFWO	Avalon, Calif.	Lawrence Mott	KWTC	100
KFCR	Santa Barbara, Calif.	Santa Barbara Broadcasting Co.		100
KUJ	Long View, Wash.	Fred W. Lovejoy & R. W. Kerfoot		10

The minutes of the Federal Radio Commission of October 12, 1928, 2:30 o'clock p. m., show the following: (R. Doc. 97.)

"Present: Commissioners Robinson, Chairman, Sykes, Caldwell, Pickard, and Lafount, the Secretary, the Chief Engineer, Captain Hill, Commander Craven, and the General Counsel.

"The Commission having examined the following applications:

1-M-B-45, General Electric Company, W G Y

* * * * * * *

and it appearing that said applications are inconsistent with General Order Number 40, the Commission denied said applications.

"CARL H. BUTMAN,
"Secretary."

The following portions of the record are self-explanatory: (R. Docs. 98, 100, 101, 102, 103, 105, 106, 107, 108, 109, 110, 111 and 112).

170 Federal Radio Commission, No. 98.

#263.

Federal Radio Commission, Washington, D. C.

File No. 1-M-B-45.

In re Application General Electric Company, WGY, for Modification of License.

Notice of Denial of Application.

To General Electric Company, Schenectady, New York:

You are hereby notified that at a meeting held October 12, 1928, the Commission denied the above-described application.

CARL H. BUTMAN,
Dated October 17, 1928. *Secretary.*

171 Federal Radio Commission, No. 100.

Copy.

October 17, 1928.

Mr. Martin P. Rice,
Radio Station WGY,
Schenectady, N. Y.

DEAR MR. RICE:

Answer to your letter of last week has been delayed by the pressure of the Commission's hearings and other work, and my own desire to report to you as fully as possible the results of my continuing efforts to secure an increase in the number of clear channels for each Zone, so that WGY might have a full-time assignment on one of these.

Certainly I sympathize with the desire of yourself and my many good friends in the General Electric Company to have a separate exclusive channel for WGY, and it is my view that the Commission has made a grave mistake in not providing enough clear channels to take care of WGY in this manner. I consistently maintained this throughout the Commission's deliberation, pending the adoption of a plan, and have always urged the use of *fifty* clear channels as all the engineers unanimously advised. Some of the Commissioners, however, wanted 25, one none, and it was by the barest chance, after weeks of argument, that we were able to get 40 approved.

Since talking with you and receiving your letter, I have again had this matter of an additional clear channel for Zone 1 before the Commission several times, in your behalf. Such a re-assignment, I believe, would be in the public interest by enabling many more listeners to be served, than can ever be reached by the small stations on such channels. It would also enable us to solve some very difficult situations in the Fourth Zone.

At present, it seems impossible to get a Commission majority to approve such a proposal of even 45 clear channels, (one additional for each Zone). But I believe that some of my political-minded associates are beginning to realize the soundness of engineering advice, and that an accord on 45 clear channels may later be readily reached. In

fact, I am hoping that the full 50 clear channels, (2 additional per Zone) may be available by next June, so that WBAL, Baltimore, may continue full-time when WTIC's new 50,000 transmitter is completed.

As the public learns that it is better served by one great station like WGY, than by the two or three 500-watt stations which consume the same wavelength, and this realization is brought to members of Congress, (who have heretofore generally *opposed* large stations and as many exclusive channels as engineers want,) the other members of the Commission will undoubtedly reverse their views into favoring the large stations as the instruments of greatest public service.

172 I have carried my personal efforts for an extra clear channel for WGY as far as humanly possible at this time, and find that, momentarily, I am up against a stone wall.

Similarly, I have urged authorization of 150,000 watts power for your station, but without present success, however inevitable I believe this also to be, in the public interest,—as you and I have many times discussed.

Under all the circumstances, and with the sincere belief that both of these considerations of 150,000 power and full-time must eventually be granted WGY, I want to again ask your cooperation in helping meet the difficult situation before the Radio Commission and the public, by consenting to experiment even temporarily with the suggested schedule on 790 kilocycles.

Such willingness of your great company to cooperate for the general benefit of radio, would win much public approval throughout the whole country, and have a public-relations value, far outside of the range reached by WGY.

For my part, I can assure you that as long as I remain a Commissioner, I will diligently continue my efforts to bring about additional exclusive channels and higher power on such exclusive channels,—which, as I understand it, form the essence of your application in connection with WGY.

Sincerely yours,

O. H. CALDWELL,
Commissioner.

173 Federal Radio Commission, No. 101.

#288.

Federal Radio Commission, Washington, D. C.

October 18, 1928.

General Electric Company,
Schenectady, N. Y.

GENTLEMEN:

Attention Mr. Martin P. Rice.

Apparently there has been a misapprehension on your part as to the action taken by the Federal Radio Commission on your recent application for modification of your license, effective November 11, 1928. This misapprehension seems to have been conveyed to a large number of listeners of Station WGY.

In filing the application in question, you disregarded fundamental rules and regulations of the Commission, copies of which were mailed to you over a month ago. These rules and regulations have been brought to the attention of your representatives repeatedly during the past week and they have been told that there is no difficulty in the way of obtaining a hearing, provided you file a new application which is in compliance with the very reasonable requirements made by the Commission.

The rules and regulations in question are General Orders Nos. 40 and 42. Under General Order No. 40, the forty cleared channels have been divided equally among the five zones,—eight channels to each zone. The particular channels assigned to the first zone are 660, 710, 760, 860, 990, 1060, 1100 and 1150.

Instead of applying for one of these channels you applied for a channel assigned to the fifth zone, composed of the states of the far west. What you are really asking the Commission to do is to take away a channel from the fifth zone and give it to the first zone, in violation of the requirements of the Radio Act, as amended, with the inevitable result of breaking down the structure which the Commission has built up after months of work, careful study

and consultation with the leading radio engineers of the country.

In addition, your application requests a power assignment of 150,000 watts, although you must have known that, under the terms of General Order No. 42, the maximum power that the Commission will license on any channel is 25,000 watts, together with an additional 25,000 watts, the continuation of which will depend upon whether interference results.

In this respect, your application is asking a favor from the Commission which has not been and will not be granted to any station in the country, so long as General Order No. 42 is in effect.

To obtain a hearing, all you have to do is to file a new application specifying a channel which is available to the first zone, and amount of power which is permitted under General Order No. 42. With such an application on file, the Commission will be glad to accord you a hearing just as it would any other applicant. There is no necessity, however, for having a hearing as to the question of whether or not your present application complies with the rules and regulations of the Commission, since it is manifest from an inspection of the documents that it does not. You are, of course, free to attack the whole structure by questioning the validity of these regulations on appeal.

The Commission feels, however, that your listening public should be informed that if you do not obtain a hearing, it is due to your unwillingness to comply with rules that all other broadcasting stations are at present complying with.

Very truly yours,

(Signed) LOUIS G. CALDWELL,

General Counsel.

174 Federal Radio Commission, No. 102.

Copy.

General Electric Company.

General Office: Schenectady, N. Y., 1 River Road

Schenectady, N. Y., October 19, 1928.

Mr. Louis G. Caldwell,
Chief Counsel Federal Radio Commission,
Washington, D. C.

Dear Mr. Caldwell:

Referring to your letter of the 18th in which you say that WGY should have applied for one of the channels assigned to the first zone, I call your attention to the fact that the Commission's order, effective November 11th, assigns WGY to part-time on a channel which the same order transfers to Zone 5 (Pacific Coast).

Our application for modification asked that WGY be permitted to operate full-time on this channel as we have for the past five and a half years, or if this channel is not available, our application implied that we wanted some other equally good full-time channel on which we might continue to serve the public.

The power requested was the same as in the application for our present license. We have not changed our power specifications.

The application was written on the forms provided by the Commission, and we earnestly endeavored to make it conform to the requirements in every detail. You state that our application did not comply with your rules and you infer for that reason it would not be considered by the Commission. Disregarding for the moment the regularity of our application, let us consider the real issue.

For six and a half years WGY has reliably served the listening public in the States of New York, Massachusetts, Vermont, New Hampshire and in more distant States. Only nine stations in the whole United States have as long a service record as WGY. The area served by our station includes three million people—for many of whom it is the

only dependable station. More than a million dollars has been spent in building WGY, operating it, and supplying it with the latest equipment. It is without question the leading developmental station in the world. It has consistently furnished the listening public with the best
175 in music, drama, education, entertainment, religion, statesmanship, health, news and science.

For some reason incomprehensible to us, the Commission's order effective November 11th ignored all these facts, and WGY's wavelength was transferred to Zone 5. No substitute was provided, but WGY was told to operate as a part-time station on the same wavelength subservient to the requirements of the Pacific Coast. We asked for a modification of this order, but are told that we cannot be heard.

The Commission proposes to take our wavelength and deprive three million people of dependable broadcasting. We hope to find some way to bring the real issue to the attention of the Commission in such form as will receive their consideration, and we hope that this end can be accomplished without adopting your suggestion that we select some station in our own zone for attack and apply for its wavelength. We have no quarrel with any other station and do not feel that we should be compelled to start such a quarrel.

Very truly yours,

MARTIN P. RICE,
Manager of Broadcasting.

MPR:T.

176 Federal Radio Commission, 103.

#298.

Federal Radio Commission, Washington, D. C.

October 23, 1928.

General Electric Company,
Schenectady, New York.

GENTLEMEN:

Attention Mr. Martin P. Rice.

I acknowledge receipt of your letter of Oct. 19. There are certain statements contained in it which, while I am

sure you did not intend them to be misleading, are open to misinterpretation by the public and I am therefore writing to call your attention to them.

When you state that the Commission proposes to deprive 3,000,000 people of dependable broadcasting, you of course, did not mean that you, station WGY, is to be shut down entirely or, indeed, in any respect except for a small curtailment in your hours of operation in the late evening. When you state that you have been told that you cannot be heard, you must have intended to say that the Commission was unwilling to grant you a hearing on an application for a cleared channel assigned to the Fifth Zone during hours when operation by your station would destroy reception of the Fifth Zone station's program over a large portion of the country because of heterodyne interference; you did not intend to say that the Commission had refused to entertain or grant a hearing on any application from you which complies with the rules and regulations of the Commission, and specifies a channel which is available to the First Zone. As you already know from previous communications from the Commission, you have only to make a proper application and a hearing will follow as a matter of course.

In your letter you complain that the Commission is in effect requiring you to attack another station. Is it not true that the application which you have already filed not only attacked another station, but if it had been granted would have resulted either in moving that other station away from the channel in question or else subjecting it to fatal heterodyne interference? If the Commission had required the Fifth Zone station to change to some other channel, then still other stations would have suffered. In effect, therefore, you are asking that other stations be deprived of broadcasting priviliges without a hearing.

177 The regulation of the Commission requiring a complaining station to specify what channel or other privilege it desires is not a new one, but has been in force since the Commission first began to hold hearings in the spring of 1927. The justice of this requirement is fundamental. The reason for it is not that the Commission desires to force any station to attack another but that, first, an applicant be required to state clearly (as he would have to in any law suit or legal controversy) what he is

applying for, and, secondly, that anyone who would be affected by granting the application be given a hearing before such action is taken. If a complaining station were not required to specify the channel it desires, then it would be seeking privileges from the Commission without granting stations who might be affected any opportunity of presenting their claims to their present assignment. As you know, the number of available channels is limited and everyone of them is being taxed to capacity because of the large number of persons desiring broadcasting licenses. No shift can be made in the frequency assignment of any one station without affecting other stations who either have to be curtailed or reassigned to other channels. I feel sure that you would not for a minute argue that the Commission should pursue such a course, no matter how small might be the stations affected, without giving them an opportunity to be heard in accordance with the guarantee of due process of law contained in our Federal Constitution.

Very truly yours,

(Signed) LOUIS G. CALDWELL,
General Counsel.

178 Federal Radio Commission, No. 105.

Copy.

File No. 1—R—B—1.

October 24, 1928.

General Electric Company,
120 Broadway,
New York, New York.

GENTLEMEN:

Attention Mr. J. W. Lewis, Asst. Secy.

Your letter of October 23rd enclosing an application for renewal of the WGY station license has just been referred to me for answer. Before the application is presented to the Commission for action, I find it necessary to explain to you certain considerations which apparently have not occurred to the persons who prepared the application.

On January 14, 1928, your company filed an application for a renewal of its existing license. This existing license by reason of several extensions expires on November 11, 1928, at 3 o'clock a. m. That application for renewal has already been acted upon by the Commission in connection with the new allocation and the terms and conditions of your new assignment are already well-known to you. Pursuant to the action of the Commission on that application for renewal, a license has already been issued to your company effective beginning November 11, 1928, and terminating on February 1, 1929 at 3 o'clock a. m.

I am at a loss to understand, therefore, the significance of this new application for renewal of license. In the present state of affairs, it can apply only to the license which expires on February 1, 1929. Under the last paragraph of section 9 of the Radio Act of 1927, no renewal can be granted more than 30 days prior to the expiration of the license which is renewed, consequently, the Commission cannot take any action on this new application until after January 2, 1929. I ask, therefore, that you advise us as to whether you want the new application considered by the Commission as an application for renewal for the period beginning February 1, 1929 (in which event it will be held in the Commission's files until the proper time), or whether, in view of the apparent misapprehension under which you are laboring, you wish to withdraw it.

I assume that what you really desire is a modification of your new frequency assignment under the allocation recently announced. As has already been explained to several of your representatives, both verbally and by letter, such an application must take the form of an application for modification of your new license. Special forms have been provided for this purpose and are familiar to you since you have already used them on one occasion.

179 The application for modification which you previously filed was, as has already been explained to you, denied because it did not comply with rules of the Commission, and in violation of those rules asked for full time on a channel assigned to the Fifth Zone and an amount of power vastly in excess of that permitted to any broadcasting station. A hearing would be useless on such an

application. If you will file an application for modification specifying a frequency which has been assigned to the First Zone (assuming that you desire full time on a cleared channel), the Commission will entertain the application and grant you a hearing. Every other broadcasting station is following this procedure and, I am glad to say, the overwhelming majority are adhering to the reasonable rules prescribed by the Commission without complaint. Your company is the only notable instance of a broadcasting station which persists in ignoring the Commission's rules and in asking that it be treated differently from other stations to such an extent that you want the Commission to take privileges from other stations and give*n* them to you without according the other stations a hearing.

In addition, the affidavits filed with your application for renewal indicate that a vast number of your listeners do not understand that WGY has not been deprived of the right to operate after sunset or during the evening, but has simply suffered a small curtailment which would permit it to operate up until 10 o'clock p. m., if the suggestions of the Commission were followed. I feel, therefore, that before permitting so many people to prepare affidavits and address letters to the Commission under a mistaken impression, you should advise these people of the real nature of the ruling.

Very truly yours,

LOUIS G. CALDWELL,
General Counsel.

LGC/ies.

180 Federal Radio Commission, No. 106.

Copy.

Federal Radio Commission, Oct. 24, 1928.

State of New York, Department of Law, Albany.

October 23, 1928.

Mr. Carl H. Butman,
Secretary Federal Radio Commission,
Nineteenth Street and Pennsylvania Avenue,
Washington, D. C.

DEAR SIR:

Enclosed is the Application of the People of the State of New York for evening broadcasting service through WGY. We hope the Commission will allow us to be heard at the same time as Station WGY, which we understand is preparing a new application to the Commission.

Very truly yours,

ALBERT OTTINGER,
Attorney-General.
By C. T. DAWES,
Solicitor-General.

CTD:HM.
Enc.

181 Copy.

To the Federal Radio Commission,
Washington, D. C.:

The People of the State of New York through their Attorney-General, Albert Ottinger, respectfully ask a hearing upon the allocation of radio frequencies to the first zone of which New York State is a part, more particularly in regard to the assignment of wave length and limitation of operating hours which affect our people now served by Station WGY at Schenectady. We request to be heard at the same time as the most recent application of WGY is set down before the Commission.

The Radio Act provides that all the people of the United States "are entitled to equality of radio broadcasting

service" and that the Federal Radio Commission "shall make a fair and equitable allocation of licenses, wave lengths, time for operation and station power to each of the state" (Radio Act, par. 3).

We believe, therefore, that a state and its people are entitled to be heard, just as a state aggrieved by a determination of the Secretary of Commerce (when that officer takes charge of the administration of the radio statute) is entitled to appeal and be heard before the Radio Commission (Radio Act, par. 5.)

Even without these statutory expressions of a state's right to participate in matters before the Commission, we think that the State of New York as a sovereign state may approach the Commission to protect the interests of so large a number of its citizens who are without opportunity to aid themselves (Georgia v. Tennessee Copper Co. 206 U. S. 230; New York v. New Jersey, 256 U. S. 301, 302; Wyoming v. Colorado, 259 U. S. 419).

Under date of September 11, 1928 the Commission has designated WGY as a limited or part time station, and has made it a daytime station only, thus cutting off from our citizens the real benefits of broadcasting service, those of the evening hours when people are in their homes.

You have given these evening hours to Montana and other states in the far west. Having done so, the Commission states that it will make no reallocation of wave
182 lengths to the different zones; that WGY cannot ask to have this situation remedied, but must seek to take away from other stations in the first zone the assignments which the Commission has given to those stations (Letter of Louis G. Caldwell, representing the Commission, to WGY, October 18, 1928). In other words, you have ruled that WGY cannot give evening broadcasting service unless some other station in New York is compelled to stop. What WGY formerly had has gone to the citizens of other less populated states, and all of central, northern and eastern New York and large portions of the States of Vermont, New Hampshire and Massachusetts must after November 11th obtain their evening service from New York City, or Boston, or not at all. We wonder if the Commission full- understood the result of this assignment, and

that stations in New York City and Boston *as a fact* cannot be heard with any quality of clearness throughout most of this vast territory with its great number of inhabitants having been served and accustomed for years to be served with evening broadcasting from WGY. It is a matter of degree, but of such a degree as to have further consideration in the interests of public necessity and convenience. The communities of Albany, Troy, Schenectady, Amsterdam, Utica and many other cities and all of the villages and country districts of the north and east and to the Canadian border are affected.

That the General Electric Company has another broadcasting station in California which it may operate during the evening hours (the attitude apparently taken by the Commission) is no answer to our public and indicates a distribution of wave lengths and station hour assignments from the standpoint of the operating stations and not on the ground of public convenience and necessity.

The section of New York we are interested in on this application had before the enactment of the Radio Act of 1927 at least a priority in service, and has an equal if not a prior right to continued evening service under the terms of the Act of 1927. Shutting off that service *entirely* for the benefit of new areas is, we believe, inequitable and not contemplated by the Federal Radio Act.

183 All determinations of the Commission, whether it be the allocation of wave lengths to the different zones or station assignments of frequencies and operating time are open for hearing before the Commission within the purview of the statute. The more far-reaching orders must be open to correction as well as the lesser orders, if Congress meant anything by the right to a hearing.

WGY of all the 1000 licensed broadcasting stations was fourth in point of time, and has operated in New York State on the wave length of 790 kilocycles ever since 1923.

Without in this application presenting all the facts which may develop upon a hearing, if one is accorded, it may incidentally be said that New York State has the greatest system of hospitals in the Union, many of which are located in the area served by WGY. Here, too, are federal hospitals. Appended to this application are pleas for WGY

service from the federal soldiers at the Veterans' Disabled Hospital at Tupper Lake, N. Y., many of whom are confined to their beds twenty-four hours of the day. They show the public necessity of evening service in the interest of the health of these men, over 350 in number. It will be taken away from them on Armistice day, November 11th.

The State Hospital for Consumptives at Raybrook, near Saranac and Lake Placid, has 300 patients, each room of the hospital being equipped with radio receiving apparatus used constantly for the patients with programs from WGY only.

Governmental activity of the State of New York at Albany is affected as well. The State Department of Health has heretofore protested to the Commission, to the end that it may maintain its public health talk service over WGY. The department has been using this broadcasting service through WGY since March 1922. Talks are given weekly and more than 325 of them have taken place. It is the most important health publicity in the State of New York and is carried on as state work in the interests of adult and child health protection and having its large influence in the control of epidemic diseases.

The Department of Agriculture and Markets has used WGY since March 15, 1922 for its Daily Market Report, and since 1925 for its weekly Crop and Market Summary. Crop Estimates also are sent out by the State, and WGY maintains an agricultural program through its
184 Farm Forum, all for the benefit of our rural sections served only by WGY.

New York State wants for its citizens the continued full time service of WGY or some other station equally as good. As matters now stand, about three millions of our people will be deprived of all evening service over WGY after November 11, 1928, and this for the education and entertainment of other sections of the country which years later have been introduced to broadcasting service.

We fully appreciate the great difficulties of the Commission in its administration of the Federal Radio Act. This application is made in no jealous spirit, but merely to request the continuance of the time-honored broadcasting service heretofore furnished three-fourths of the Empire

States. Later comers should give way before we are asked to do so.

October 23, 1928.

Respectfully submitted,

ALBERT OTTINGER,

Attorney-General of the State of New York,

Capitol, Albany, N. Y.

C. T. DAWES,

Solicitor General.

185 *Boys who Gave their Health for Their Country Plead to Have WGY Remain on Air Evenings.*

General Electric's Station is Only Dependable One Received at Disabled Veterans Hospital at Tupper Lake—Many of 350 Patients are Confined to Their Beds 24 Hours of the Day.

Are they going to take away our radio, our greatest source of recreation and pleasure?

From their hospital beds and wheel chairs, the wistful faces of 350 young soldiers in the United States Veterans Tuberculosis hospital camp at Tupper Lake, in the Saranac regions of the Adirondacks, are turned toward Washington with that question on their lips. They would like to ask it of the Federal Radio Commission as the day draws near when WGY, their sole source of regular diversion, will be lost to them through the ruling of the commission, making this a part time station on November 11.

No other radio station brings the outside world, with its gaiety, its progress, its pulse of life to these young men who offered their best to their country and now find that their country's government is about to snap the only link they have with the world which once counted them as part of it, but apparently no longer does so. From six to ten o'clock at night each Tupper Lake patient has his head-phone in place, listening to the great world outside as WGY brings it to him across the long stretches of forest and lake. It is the one thing that makes life livable to them in their enforced, indeterminate confinement; the one thing that keeps their minds tranquil until the night advances and they fall off to sleep many times with their head-phones still at their ears.

"Radio is a most important part in the lives of these boys up here fighting to regain their health," according to Dr. Richard L. Cook, medical officer in charge at the hospital. "It goes a long ways toward keeping them cheerful, keeping their minds occupied, a big problem in caring for this
186 disease. WGY is the one dependable station up here, and I hope nothing happens to interfere with a continuance of its many fine programs. If it did, it would be a severe blow to us."

Of the 350 boys in the hospital, a majority of them veterans of the world's war, a large number are confined to their beds 24 hours of the day. Reading, gazing at the blue sky and tree tops out of their windows, and radio, are their only recreation.

"Times hangs very heavy with us in this ward", Earl D. Kilburn of Watertown, one of several suffering from tuberculosis of the bones, states in his plea for WGY to be restored to its regular broadcast privileges. "I was in the 305th field artillery and did my bit. For the past two years I have been up here. During this time, I don't believe I have missed listening-in a single night to WGY. After supper is served to us, there is little else to do until lights are turned out at 10 o'clock.

"We willingly gave our most valuable asset, our health, to our government. Now can this same government take away our radio, our greatest pleasure and entertainment. If the men who are trying to take WGY off the air at night have any human sympathies, how can they do this? It can't be they know or realize how dependent we are on WGY".

A similar plea comes from Thomas J. Murphy, a Troy boy who has been a patient for three years, and confined to his bed in this same ward for the past year.

"I listen in every night and thoroughly enjoy the programs from WGY," he says, "Occasionally we get another station but reception is never good. WGY is the one station we are always sure to get any night of the year.

"I just can't get along without my radio. Please tell me what I can do to keep WGY on the air nights? We need radio so much up here".

Cleveland Palmer of Georgetown, who protests his failing eyesight with dark glasses and finds reading difficult,

also makes a pathetic plea for radio. His condition is such that he is confined to a room by himself. This deprives him of the companionship of other patients, making radio all the more important.

187 L. J. Nallon, of Ozone Park, N. Y., past commander of the Disabled American Veterans, an organization of more than 700,000 boys who were crippled in health or otherwise in the world war, has been a bed patient for a year and a half at the hospital. "Can the people who seek to deprive us of WGY realize how dependent we are on radio and on this station for a big part of our recreation? It must be they don't or they could never think of inflicting this hardship on us after we made so important a sacrifice as our health to our government.

"Radio is everything to us, it's half our sunshine, and I pray nothing will happen to take it away."

M. L. Lyons, present Commander of the organization, is also a patient at the hospital. "Radio, and by that I mean reception from WGY, is the outstanding relaxation and pleasure of these 350 boys. I can't see it taken away," he declared. "I have sent protests to the commission, and done everything I could think of. The interests and welfare of these disabled boys up here is my constant thought. If the men who have ruled WGY off the air evenings could but visit this hospital, I know they would reverse their order. They couldn't knowingly bring this punishment on these boys."

188 Federal Radio Commission, No. 107.

#309.

Federal Radio Commission, Washington, D. C.

October 25, 1928.

Hon. Albert Ottinger,
Attorney General, the State of New York,
Albany, New York.

DEAR SIR:

Your letter of October 23rd enclosing an application of the People of the State of New York for evening broadcast-

ing service through Station WGY has been referred to me for reply.

In the first place, I am authorized to state in behalf of the Commission that the Commission will welcome any intervention on the part of duly authorized representatives, such as yourself, of the people of your State, in any hearing that may be held which involves any New York station. There will be no difficulty, therefore, in the way of your appearing and presenting such evidence as may be material on the relevant issues which would, of course, include the service which the station has given, and another evidence tending to show that the privileges requested would serve public interest, convenience or necessity.

Unfortunately, Station WGY has not yet seen fit to comply with the rules of the Commission and file an application in accordance with those rules. As you will see by reference to the Radio Act, Section 5, approved March 28, 1928, the Commission is under very severe restrictions on the subject of equality of broadcasting privileges as between the five Zones. With respect to what is popularly known as "cleared channels" each Zone has been assigned eight specific frequencies. Naturally, with the law reading as it does, no Zone will *b*oluntarily relinquish one of these channels to another Zone where there are individuals within the first mentioned Zone who are in a position to a*w*ail themselves of the use of such a channel. If the Commission should increase the number of cleared channels (which must be done in such a way as to give each Zone the same increase) it could do so only at the expense of the remaining channels which now accommodate at least two and usually more than two stations in simultaneous full time operation. The result of an increased number of cleared channels would be further crowding and curtailment of the privileges of a large number of smaller stations, and the listening public of each such station would correspondingly suffer.

189 After long and careful study, in which the Commission had the best engineering advice available in the country, the Commission determined that under the present condition eight cleared channels per Zone would achieve the best results for the public. Its problem was then to ascertain which stations in each Zone should be as-

signed to these channels. The Commission does not claim that its choice of stations may not be free from error and is, therefore, anxious that any station which feels that it has not been fairly treated should have ample opportunity for hearing. Inasmuch as any change in assignment on the cleared channels means that some other station must give way to the applicant, the Commission feels that it is only just, in accordance with the guarantee of due process of law in the Federal Constitution, to accord the station or stations affected a hearing. Furthermore, you as an attorney realize that a satisfactory hearing is not possible without definite and clearcut issues. The Commission, therefore, requires each applicant to state precisely what broadcasting privileges he is applying for, and gives notice to the stations affected of the time and place for hearing so they may defend their present assignments. On the other hand, it does not grant a hearing to an applicant who fails to specify what privileges he is seeking or who seeks privileges which, under the regulations of the Commission, are not available to him or to any other applicant in his Zone.

The Commission regrets the erroneous impression which seems to be widespread among the listeners of WGY and which is reflected in the application of the People of the State of New York. Due to the difference in time between Schenectady and the Pacific coast, Station WGY will not become a daytime station in the sense in which that term seems to be understood by its listening public. The Commission has not "ruled that WGY cannot give evening broadcasting service". If WGY will follow the suggestion of the Commission, it may operate every evening until approximately 10 o'clock. This involves only a very slight curtailment of its former privileges because, as the records of the Commission show, WGY has seldom operated beyond 11 o'clock p. m., and frequently has shut down at an earlier hour.

I have dwelt at some length upon these considerations because I want you, as the representative of the people of your State to be acquainted fully with considerations which have determined the Commission- action. I also repeat the assurance which is contained in the opening part of this letter, to the effect that when and as soon as WGY makes

a proper application, a hearing will be held as a matter of course, and you will be given an opportunity to be heard.

Very truly yours,

(Signed) LOUIS G. CALDWELL,
General Counsel.

190 #311

Federal Radio Commission, No. 108

Federal Radio Commission, Washington, D. C.

October 25, 1928.

To all persons holding licenses to broadcast:

The Commission has found it necessary to make certain changes in the allocation announced September 10, 1928, effective November 11, 1928. These changes are due in part to the fact that extensive checking has revealed possibilities for deriving greater service to the public on certain channels and for more economical use of daytime hours; in part to the desire to remedy certain injustices to particular stations and certain sections of the country without the expense of a hearing; and in part to the necessity of correcting a few sources of interference. The changes thus made are incorporated in a revised list of stations, a copy of which accompanies this statement. The new list also incorporates such increases of power for existing stations as have been authorized by the Commission since the publication of the first list.

Licenses are being issued and mailed to the stations in accordance with the assignments indicated on the list. These licenses will be effective on November 11, 1928 at 3 o'clock a. m., Eastern Standard Time, and will expire on February 1, 1929, at the same hour.

All stations dissatisfied with their assignments under the revised allocation should follow the procedure set forth in the Commission's statement of September 11, 1928. Applications must be on forms provided by the Commission; these may be obtained from the Radio Supervisors or from the Secretary of the Commission. All such applications must specify what frequency, power, and/or hours of operation are desired by the applicant. No one application may

specify more than one frequency. If one applicant files two or more applications for different frequencies, only one of the applications will be set for hearing and consideration of the others will be postponed until the one heard is disposed of; if such an applicant fails to designate which application he desires to be heard first, the Commission will select such application.

FEDERAL RADIO COMMISSION,
By CARL H. BUTMAN,
Secretary.

Federal Radio Commission, No. 109.

191 Copy

General Electric Company.

General Office: Schenectady, N. Y.

1 River Road,
Schenectady, N. Y., October 26, 1928.

Mr. Louis G. Caldwell,
General Counsel Federal Radio Commission,
Washington, D. C.

DEAR MR. CALDWELL:

Refering to your letter of October 24th marked "attention Mr. J. W. Lewis, Assistant Secretary", the application for renewal of the WGY station license accompanying our letter of October 23rd was filed with the view of obtaining a renewal of our present license as we have not yet received any license whatever permitting us to broadcast after November 11th. As the time is drawing near, we must know on what basis WGY may be permitted to broadcast, and we therefore request action of the Commission on our application at its earliest convenience.

We particularly call the attention of the Commission to the following points in our application:

While our rated power is 150 Kilowatts, our application asks for the maximum power which the Commission is willing to assign to any station.

With regard to wavelength, we have asked for full-time on the wavelength we have employed for the past five and a

half years, but, recognizing the regulatory power of the Commission, we have offered to accept any other equally good full-time channel which the Commission may care to assign to us.

Our plea is based on public interest, convenience and necessity, and we ask only that the large listening audience for whom WGY is the most dependable station, be not deprived of this broadcast service, and we feel that the Commission's re-allocation plan must have been intended to equalize and improve broadcast reception and not to deprive a large section of the country of its most dependable programs.

192 With regard to your last paragraph in which you state that "WGY has not been deprived of the right to operate after sunset or during the evening, but has simply suffered a small curtailment which would permit it to operate up until 10:00 o'clock p. m. if the suggestions of the Commission were followed", will you kindly ask the Commission to consider this suggestion in the light of the following facts, and then, if possible, put it in the form of a definite regulation or order.

The Commission's orders effective November 11th transfer WGY's wavelength from the first zone to the fifth zone, and promise the people of the fifth zone the privilege of 24-hour operation on this wavelength. The orders further prohibit simultaneous operation of two stations like WGY and KGO after dark on the same wavelength. It therefore seems perfectly clear that WGY is prohibited from broadcasting after sunset in Oakland, California, by the Commission's own orders. However, Commissioner O. H. Caldwell wrote me on September 25th stating that I, as Manager of both KGO and WGY, may modify the broadcasting schedule so that both stations may enjoy exclusive chanel operation "and each with a time schedule at least 90 per cent* of its present operating hours." His letter definitely suggests that KGO should stand by from sunset to 7:00 p. m. and that WGY should discontinue evening broadcasting at 10:00 p. m., or since both stations are under my "personal management, this schedule can be varied at will from night to night."

* Actually the stations would be cut to 65 or 75 per cent of their present operating hours.

Commissioner Caldwell's letter, which apparently ignores the fact that the wavelength was transferred to Zone 5 under an assignment which, to quote the ruling "connotes 24-hour operation" for the people of Zone 5, was initialed by Commissioners Pickard, Lafount and Sykes. However, Commissioner Lafount wrote me on October 2nd that his willingness to endorse this suggestion was based upon the supposition that the arrangement would be entirely satisfactory to the fifth zone. He says, "Of course, if the Oakland station objected, then my attitude would be entirely different."

About this time Mr. J. A. Cranston, Commercial Vice President of the General Electric Company in charge of the Pacific Coast District, wired Commissioner Lafount strongly protesting, and calling attention to important features of KGO's program, including stock and market reports, live stock quotations, weather reports and special frost warnings now broadcast exclusively by KGO which would have to be eliminated if the station were shut down from sunset until 7:00 p. m. Protests from listeners who had heard of the proposed change, were received at KGO and several newspaper articles appeared, although the station carefully refrained from giving the matter any publicity.

193

Under the circumstances, we feel that the Commission in the application of a plan for the equalization and improvement of broadcasting, has entirely overlooked a section of the country including fully three million people. The transfer of WGY's wavelength to Zone 5 has left these people, who depended upon WGY, with no reliable broadcast service. The suggestion that WGY borrow the cleared channel from Zone 5 for evening broadcasting up to 10:00 p. m. is not satisfactory to the people of Zone 5 or to Station KGO. It does not give the people of Zone 5 the privilege of 24-hour service which the assignment connotes. We believe, in the interest of justice, the Commission should revise its order with reference to WGY so that the allocation may more nearly comply with the basis of the law; namely, public interest, convenience or necessity.

Very truly yours,

MARTIN P. RICE,
Manager of Broadcasting.

MPR:T.

Federal Radio Commission, No. 110.

194 Copy.

General Electric Company.

General Office: Schenectady, N. Y.

1 River Road,
Schenectady, N. Y., October 26, 1928.

Mr. Louis G. Caldwell,
General Counsel Federal Radio Commission,
Washington, D. C.

DEAR MR. CALDWELL:

As you say in your letter of October 23rd that some of the statements in my previous letter may be misunderstood let me re-state the real issue.

The order of the Commission effective November 11th will deprive about three million people of their most dependable broadcasting, and will deprive WGY of its right to serve the public whom it has served for the past six and a half years. This surprising order was issued by the Commission without giving either the public or WGY a hearing.

When we protested and asked that we be permitted to retain our full-time wavelength or be assigned to some other equally good wavelength so that we might continue to serve the public, we were denied a hearing and told that a hearing could not be granted unless we were willing to attack some other station in the Zone and demand its wavelength.

These are the facts which constitute the real issue, and I do not find any answer to them in your letter. You, of course, know that we are not asking that any other station be deprived of broadcasting privileges either with or without a hearing; we are protesting that WGY and the listening public have already been deprived of broadcasting privileges on November 11th without a hearing.

Now, with regard to possible misinterpretation, let me refer to your statement implying "a small curtailment" in WGY's hours of operation during the late evening. You, of course, know that the Commission's orders transfer WGY's wavelength from the first zone to the fifth zone, and

promise the people of the fifth zone the privilege of 24-hour operation on this wavelength. The orders fur-
195 ther prohibit simultaneous operation of two stations like WGY and KGO after dark on the same wavelength. Therefore, WGY is prohibited from broadcasting after sunset in Oakland, California, by the Commission's own orders. However, some members of the Commission have sought to drive two ways on the one-way street which they have created by suggesting that WGY might borrow the fifth zone wave length until 10:00 o'clock in the evening. This suggestion presupposes that the people of Zone 5 are willing to shut down their station for two or three hours during the early evening, but, as a matter of fact, they are not, and the Commissioner representing Zone 5 has been so informed.

Even if the plan were entirely practicable, it cannot in any sense be termed a small curtailment as you will readily see from examining the accompanying diagrams showing program hours which it would necessitate canceling at WGY and KGO.

Very truly yours,

MARTIN P. RICE,
Manager of Broadcasting.

MPR:T.

(Here follows diagram, marked page 196.)

Federal Radio Commission, No. 111.

197 Copy.

General Electric Company.

General Office: Schenectady, N. Y.

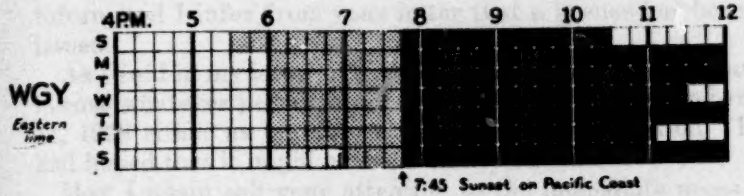
1 River Road,
Schenectady, N. Y., October 27, 1928.

Mr. Louis G. Caldwell,
General Counsel Federal Radio Commission,
Washington, D. C.

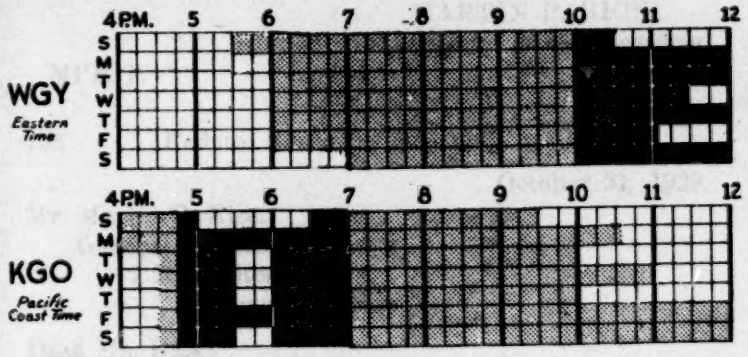
DEAR MR. CALDWELL:

Referring again to your letter of October 24th marked "attention of Mr. J. W. Lewis, Assistant Secretary," you

How Radio Ruling Hits WGY



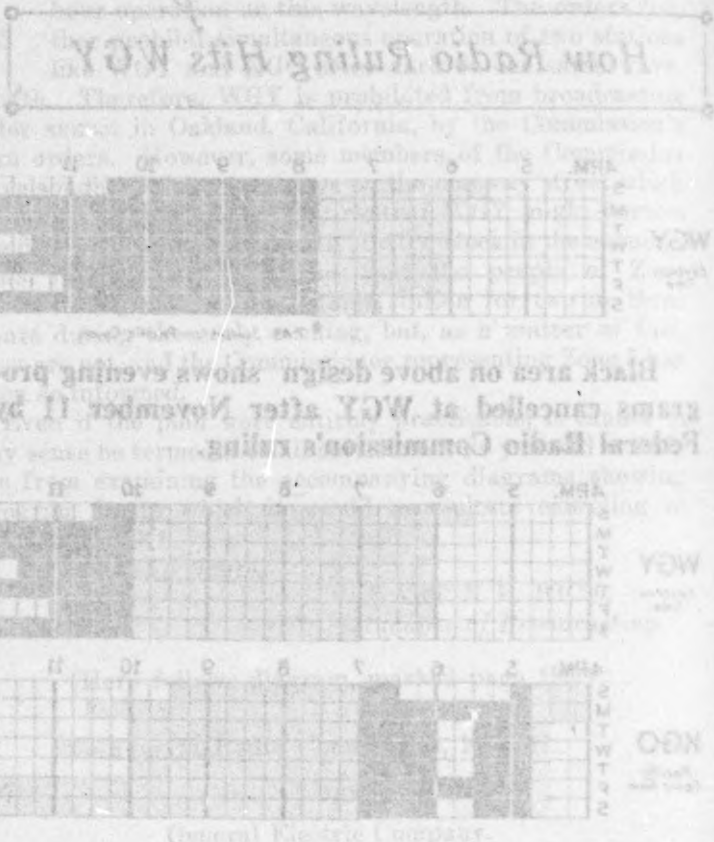
Black area on above design shows evening programs cancelled at WGY after November 11 by Federal Radio Commission's ruling.



Black areas on above two diagrams show programs cancelled at WGY and KGO by Commission's suggestion, which does not conform to its own regulations.

The black and shaded areas on all three diagrams indicate the program periods of both stations at the present time.

General Electric Company
Appellant
vs.
Federal Radio Commission


Hour Radio Ruling Hits WGY
WGY
WGY
NBC

state that the application for renewal of WGY's license, which expires on November 11, 1928, has already been acted upon by the Commission in connection with the new allocation. The newspaper publicity which you have released gives the impression that WGY will be permitted to continue broadcasting after November 11th practically as heretofore, and I infer from your letter that a license has been issued.

As I said in my letter of yesterday, WGY has received no license whatever permitting it to broadcast after November 11, 1928 either as heretofore or on the new allocation. I had hoped that it might arrive in today's mail.

May I again call your attention to the immediate necessity of our having a license from the Commission showing definitely when and how WGY will be permitted to broadcast.

Very truly yours,

MARTIN P. RICE,
Manager of Broadcasting.

MPR:T.

198 Federal Radio Commission, No. 112.

October 31, 1928.

Mr. Martin P. Rice,
General Electric Company,
1 River Road,
Schenectady, New York.

DEAR MR. RICE:

Your new license, effective November 11, 1928, was issued several days ago and should be in your hands by this time. It, of course, has to pass through the hands of the Federal Radio Supervisor in your District, and this probably accounts for the fact that you had not received it by the time you wrote your letter of October 26th.

The license is in accordance with the assignment of frequency, power and hours of operation listed in the new allocation, of which you are already fully informed.

I do not see that any useful purpose will be served by our getting into a discussion of the merits of your case. The procedure which has been fully explained to you, is still

open to you at any time for the purpose of obtaining a better assignment. If you choose to ignore the regulations of the Commission or to refuse to follow them, the Commission has only one course to follow and that is to leave your assignment unchanged in any respect. The Commission cannot single out WGY and except it from a rule which it is applying to all other broadcasting stations whether large or small.

Very truly yours,

LOUIS G. CALDWELL,
General Counsel.

On October 17, 1928, the Federal Radio Commission issued the following license to the General Electric Company for the operation of its station WGY for the term beginning 3 A. M., November 11, 1928, and ending 3 A. M., January 31, 1929. (R. Doc. 99.)

199 Federal Radio Commission. No. 99.

Copy.

Form No. 20.
Class: —. Official No.: 264. Call Letters: WGY.

United States of America Federal Radio Commission.

Radio Broadcasting Station License.

Subject to the provisions of the Radio Act of 1927, as amended on March 28, 1928, the regulations made thereunder and such subsequent acts and treaties, and regulations as may be established thereunder and the conditions mentioned in this license, all of which terms and conditions are hereby made a part hereof as though specifically set out in full herein, General Electric Company is hereby authorized to use and operate the radio apparatus herein described for the purpose of broadcasting for the term beginning 3 A. M., November 11, 1928, & ending 3 A. M., January 31, 1929, Eastern Standard Time, unless this license is sooner suspended or revoked.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequency

or wave length specified herein, beyond the terms hereof, nor in any other manner nor at any other time or place than authorized herein. Neither the license nor right granted herein shall be assigned or otherwise transferred in violation of the Radio Act of 1927, as amended, and this license is expressly subject in terms to the right of use or control conferred by Section 6 of said Radio Act.

The licensee is authorized to use and operate the apparatus located at Number — Mariaville Road, City or Town of South Schenectady, County of Schenectady, in the State of New York, and is described as follows: General Electric-V. T. Telephone.

The licensee is also authorized to use and operate the auxiliary apparatus for emergency purposes only, located at Number — —— Street, City or Town of ——, County of ——, in the State of ——, and is described as follows: ——.

The authorized frequency or wave length, maximum power, call letters, and time of operation are as follows:

Frequency, 790; approximate wave length, 379.5 meters; power output, 25,000 watts & 25,000 watts additional on experimental basis; call letters, WGY; time of operation, limited.

As one of the conditions of this license, the licensee is required during the term of this license to render adequate broadcasting service during the authorized time of operation, and a violation of this condition will be considered a ground for the suspension or revocation of this license.

The commission reserves the right at any time after the date of this license to make such changes in the frequency, power, and time of operation above authorized as will promote public interest or convenience, or will serve public necessity, or are necessary to comply with Section 9 of the Radio Act of 1927, as amended by Section 5 in the Act of Congress of March 28, 1928, or regulations made thereunder.

Dated this 17th day of October, 1928.

[SEAL.] FEDERAL RADIO COMMISSION.

—— ——, *Chairman.*

200 Federal Radio Commission, 117.

#385. No. 19.

Minutes of the Federal Radio Commission.

November 22, 1928—10:30 A. M.

Present: Commissioners Robinson (Chairman), Sykes, Caldwell, and Lafount; the General Counsel and the Secretary.

Applications Designated for Hearing.

The Commission examined the following application dated November 3, 1928 for modification of license:

File. No.	Applicant.	Call letters.	Nature of application.
I-M-B-128	General Electric Company	WGY	Full time on 790 kc. or any frequency substantially equivalent

A motion was made by Commissioner Lafount as follows:

1. That, since the frequency of 790 kc is a frequency allocated to the Fifth Zone under General Order No. 40, and therefore not available for use in the First Zone for full time operation, the application be denied insofar as it requests full time operation on that frequency, and

2. That, since said application, insofar as it requests the use of "any frequency substantially equivalent" etc., fails to comply with the rule of the Commission requiring every application for modification of license with respect to frequency to specify a definite frequency as the one requested, the rest of said application be likewise denied.

A motion was thereupon made by Commissioner Sykes to substitute the following paragraphs for Paragraph 2 of said motion:

(2) That the application, insofar as it requests the use of "any frequency substantially equivalent," be construed as an application for one of the eight frequencies (popularly known as cleared channels) allocated to the First Zone, namely 660, 710, 760, 860, 990, 1060, 1100 and 1150 kc.

(3) That the application be therefore considered as coming within the terms of the rule of procedure adopted by the Commission at its meeting of October 6, 1928, as follows:

"In all cases where an applicant for modification of a broadcasting license requests a change to more than one frequency, a hearing will be set only with respect to one
201 requested frequency at a time. In all cases in which the applicant does not indicate a preference the Commission itself will determine which frequency shall be the subject of the first hearing. Applications for other frequencies will be set for hearing, but will be continued from time to time after the first hearing is held."

(4) That, since the applicant, General Electric Company, although repeatedly requested by the Commission, has at all times failed and refused to specify as to which frequency it desired to be heard first, the Commission should immediately proceed to designate such frequency.

(5) That, since the State of New York already has assigned to it four of the eight cleared channels allocated to the First Zone, namely 660, 760, 860 kilocycles, (which have been assigned to stations in the New York City area), and 1150 kc. (which has been assigned to a station in Rochester, N. Y.), the Commission should designate one of the three frequencies now used in the New York City area.

(6) That, since the frequency of 760 kc. is, of the frequencies available to the First Zone, the one most nearly equivalent to the frequency of 790 kc. heretofore used by the applicant, the Commission should designate the frequency of 760 kc. as the one on which the applicant's application shall be heard.

(7) That a hearing be held on said application so construed at an early date in accordance with the usual procedure of the Commission and the stations now assigned to said frequency of 760 kc. be duly notified.

The foregoing motions were thereupon referred to the General Counsel who advised the Commission that, in his opinion, action should not be taken on either motion so long as the order of the Court of Appeals of the District of Columbia, entered on November 9, 1928, remained in effect,

and possibly until a decision was rendered by the Court of Appeals on the case now pending before it. The Commission therefore took both motions under advisement

CARL H. BUTMAN,
Secretary.

B.

On June 1, 1927, the Federal Radio Commission issued a license to the Renssler Polytechnic Institute, Troy, N. Y., operating Station WHAZ, for the term ending July 31, 1927. This license was further extended until October 14, 1927, and later extended to November 1, 1927. (R. Docs. 115 and 116) This license permitted the use of the frequency of 790 kc and was issued upon application of the Renssler Polytechnic Institute for operating time as follows: 8 P. M. until midnight every Monday night only. (R. Docs. 113 and 114) The application of station WHAZ, dated March 29, 1927, contains the following (R. Doc. 113):

"12. If broadcasting station:

(*a*) During the preceeding year—

(1) What wave lengths have been used? 379.5 *meters.*

(2) What power out-put has been employed? 500 *watts.*

(3) What days of the week and at what hours did the station regularly operate during the year? 8 *P. M. until midnight every Monday night only.*"

The Federal Radio Commission has authorized and licensed the use of the frequency of 790 kc to various other stations as follows: On July 7, 1927, Station WCAJ, Nebraska Wesleyan University, Lincoln, Nebr., was authorized to operate on this frequency and this station continued to so operate under license until November 11, 1928. (R. Docs. A1, A6, A7, A8, appeal No. 4880 and R. Docs. 60 to 68, inclusive, appeal No. 4870)

Station KMMJ, the M. M. Johnson Company, Clay Center, Nebr., was authorized to use this frequency from July 7, 1927, to October 31, 1927. (Docs. A1, A2, A3, appeal No. 4880)

Station KMTR, the KMTR Radio Corporation, Hollywood, Calif., was authorized to use this frequency from April 29, 1927, to June 1, 1927. (R. Docs. A9, A10, A11, appeal No. 4880)

Station WMBL, Benford's Radio Studio, Lakeland, Fla., was authorized to use this frequency from April 22, 1927, to June 1, 1927. (R. Doc. A4)

Station WOAN, Lawrenceburg, Tenn., was authorized to use this frequency from April 22, 1927, to June 1, 1927. (R. Doc. A5)

202 Federal Radio Commission, A-1.

Copy.

676.

Federal Radio Commission.

Special Order No. 52.

July 7, 1927.

In order to promote public convenience or interest, or to serve public necessity, it is hereby ordered that Station KMMJ, The M. M. Johnson Company, Clay Center, Nebraska, be changed from operating on a frequency of 1310 kilocycles, to a frequency of 790 kilocycles, with a power output of 500 watts, sharing time on this channel with Station WCAJ.

It is also ordered that Station WCAJ, Nebraska Wesleyan University, University Place, Lincoln, Nebraska, be changed from operating on a frequency of 860 kilocycles, to a frequency of 790 kilocycles, with a power output of 500 watts, sharing time on this channel with Station KMMJ.

Licenses specifying the above frequency and power, effective July 7th and continuing in effect to August 15th, will be issued at once to these stations in accordance with this order.

203 Federal Radio Commission, A-2.

Copy.

Form 2. Official No. 676.

United States of America, Federal Radio Commission.

Radio Station License (Other Than Ship).

Class: Broadcasting. Call Letters: KMMJ.

Subject to the provisions of the Radio Act of 1927 and the conditions mentioned in this license, The M. M. Johnson Company is hereby authorized to use and operate the radio apparatus herein described for the transmission of radio communications for the term ending August 14, 1927, unless this license is sooner suspended or revoked.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies or wave lengths specified herein, beyond the terms hereof, nor in any other manner nor at any other time or place than authorized herein. Neither the license nor right granted herein shall be assigned or otherwise transferred in violation of the Radio Act of 1927, and this license is expressly subject in terms to the right of use or control conferred by Section 6 of said Radio Act.

The apparatus authorized to be used and operated by the licensee is located in the State of Nebraska, County of Clay, City or town of Clay Center, Glenvil Street, number —, and is described as follows: Western Electric V. T. Telephone.

204 The nature of the service authorized to be rendered under this license is as follows: Broadcasting.

The authorized frequencies or wave lengths, maximum power, call letters, and time of operation are as follows:

Frequency: 790 kilocycles, or wave length 379.5 meters.

Power: Output 500 watts.

Call letters: KMMJ.

Time of operation: Divides time with WCAJ.

As one of the conditions of this license, the licensee is required during the term of this license to render adequate

service of the character above specified during the authorized time of operation and a violation of this condition will be considered a ground for the suspension or revocation of this license.

This license is issued under and in accordance with the Radio Act of 1927, and all of the terms and conditions thereof are made a part hereof as though specifically set out in full herein.

Dated this 7th day of July, 1927.

[SEAL.] FEDERAL RADIO COMMISSION,
By ——— ———, *Chairman.*

nvc.

205 Federal Radio Commission, A-3.

Copy.

Federal Radio Commission, Commerce Building,
Washington.

Commissioners: W. H. G. Bullard, Chairman; Orestes H. Caldwell, Eugene O. Sykes, Henry A. Bellows, John F. Dillon.

RC-3. August 8, 1927.

M. M. Johnson Co.,
Radio Station KMMJ,
Clay Center, Nebr.

SIR:

Your license to operate your radio broadcasting station, which will expire in a few days, is hereby extended and renewed from its date of expiration until October 14, 1927, on which day it will terminate unless further extended or renewed by this Commission.

This extension or renewal is subject to all the terms and conditions of the now existing license.

FEDERAL RADIO COMMISSION,
By W. H. G. BULLARD, *Chairman.*

206 Federal Radio Commission, A-4.

Copy.

Federal Radio Commission, Commerce Building,
Washington.

Commissioners: W. H. G. Bullard, Chairman; Orestes H. Caldwell, Eugene O. Sykes, Henry A. Bellows, John F. Dillon.

Station WMBL.

April 22, 1927.

Benford's Radio Studios,
121 North Kentucky Ave.,
Lakeland, Florida.

SIR:

Your application for the renewal of your radio broadcasting station license is at hand. Pending final action on the same, you are hereby authorized to operate your station in accordance with the radio law, approved February 23, 1927, using a power output of 10 watts and a frequency of 790 kilocycles (379.5 meters) until further orders are received by you from this Commission.

Until a more definite method of measurement is adopted the power output will be taken as one-half the power (volt-amperes) in the plate circuit of the oscillator, or in the plate circuit of the power amplifier tube if one is used.

This extension is not to be considered as a finding that your operation is in the public interest, convenience, of necessity.

This will be determined only after full consideration of the facts.

FEDERAL RADIO COMMISSION,
—— ——, *Chairman.*

207 Federal Radio Commission, A-5.

Copy.

Federal Radio Commission, Commerce Building,
Washington.

Commissioners: W. H. G. Bullard, Chairman; Orestes H. Caldwell, Eugene O. Sykes, Henry A. Bellows, John F. Dillon.

WOAN.

April 22, 1927.

The Church of the Nazarene and Vaughan School of Music,
Public Square,
Lawrenceburg, Tenn.

SIR:

Your application for the renewal of your radio broadcasting station license is at hand. Pending final action on the same, you are hereby authorized to operate your station in accordance with the radio law, approved February 23, 1927, using a power output of 250 watts and a frequency of 790 kilocycles (379.5 meters) until further orders are received by you from this Commission.

Until a more definite method of measurement is adopted the power output will be taken as one-half the power (volt-amperes) in the plate circuit of the oscillator, or in the plate circuit of the power amplifier tube if one is used.

This extension is not to be considered as a finding that your operation is in the public interest, convenience, or necessity.

This will be determined only after full consideration of the facts.

FEDERAL RADIO COMMISSION,
—— ——, *Chairman.*

208 Federal Radio Commission, A-6.

Copy.

Form 2. Official No. 689.

United States of America, Federal Radio Commission.

Radio Station License (Other Than Ship).

Class: Broadcasting. Call Letters: WCAJ.

Subject to the provisions of the Radio Act of 1927 and the conditions mentioned in this license, Nebraska Wesleyan University is hereby authorized to use and operate the radio apparatus herein described for the transmission of radio communications for the term ending August 14, 1927, unless this license is sooner suspended or revoked.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies or wave lengths specified herein, beyond the terms hereof, nor in any other manner nor at any other time or place than authorized herein. Neither the license nor right granted herein shall be assigned or otherwise transferred in violation of the Radio Act of 1927, and this license is expressly subject in terms to the right of use or control conferred by Section 6 of said Radio Act.

The apparatus authorized to be used and operated by the licensee is located in the State of Nebraska, County of Lancaster, City or town of University Place, P. O. Lincoln, 18th & R Street, number —, and is described as follows:

Composite V. T. Telephone.

209 The nature of the service authorized to be rendered under this license is as follows: Broadcasting.

The authorized frequencies or wave lengths, maximum power, call letters, and time of operation are as follows:

Frequency: 790 kilocycles, or wave length 379.5 meters.

Power: Output 500 watts.

Call letters: WCAJ.

Time of operation: Divides time with KMMJ.

As one of the conditions of this license, the licensee is required during the term of this license to render adequate

service of the character above specified during the authorized time of operation and a violation of this condition will be considered a ground for the suspension or revocation of this license.

This license is issued under and in accordance with the Radio Act of 1927, and all of the terms and conditions thereof are made a part hereof as though specifically set out in full herein.

Dated this 7th day of July, 1927.

[SEAL.] FEDERAL RADIO COMMISSION,
By ——, *Chairman.*

nvc.

210 Federal Radio Commission, A-7.

Copy.

Federal Radio Commission, Commerce Building,
Washington.

Commissioners: W. H. G. Bullard, Chairman; Orestes H. Caldwell, Eugene O. Sykes, Henry A. Bellows, John F. Dillon.

RC-3.

August 8, 1927.

Nebraska Wesleyan University,
Radio Station WCAJ,
18th & R Sts., University Place,
Lincoln, Nebr.,

SIR:

Your license to operate your radio broadcasting station, which will expire in a few days, is hereby extended and renewed from its date of expiration until October 14, 1927, on which day it will terminate unless further extended or renewed by this Commission.

This extension or renewal is subject to all the terms and conditions of the now existing license.

[SEAL.] FEDERAL RADIO COMMISSION,
By W. H. G. BULLARD, *Chairman.*

211 Federal Radio Commission, A-8.

Copy.

Form 2. Official No. 689.

United States of America, Federal Radio Commission.

Radio Station License (Other Than Ship).

Class: Broadcasting. Call Letters: WCAJ.

Subject to the provisions of the Radio Act of 1927 and the conditions mentioned in this license, Nebraska Wesleyan University is hereby authorized to use and operate the radio apparatus herein described for the transmission of radio communications for the term ending December 31st, 1927, unless this license is sooner suspended or revoked.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies or wave lengths specified herein, beyond the terms hereof, nor in any other manner nor at any other time or place than authorized herein. Neither the license nor right granted herein shall be assigned or otherwise transferred in violation of the Radio Act of 1927, and this license is expressly subject in terms to the right of use or control conferred by Section 6 of said Radio Act.

The apparatus authorized to be used and operated by the licensee is located in the State of Nebraska, County of Lancaster, City or town of University Place, P. O. Lincoln, 18th & R Street, number —, and is described as follows:

Composite V. T. Telephone.

212 The nature of the service authorized to be rendered under this license is as follows: Broadcasting.

The authorized frequencies or wave lengths, maximum power, call letters, and time of operation are as follows:

Frequency: 790 kilocycles, or wave length 379.5 meters.

Power: Output 500 watts.

Call letters: WCAJ.

Time of operation: Unlimited.

As one of the conditions of this license, the licensee is required during the term of this license to render adequate

service of the character above specified during the authorized time of operation and a violation of this condition will be considered a ground for the suspension or revocation of this license.

This license is issued under and in accordance with the Radio Act of 1927, and all of the terms and conditions thereof are made a part hereof as though specifically set out in full herein.

Dated this 1st day of November, 1927.

[SEAL.] FEDERAL RADIO COMMISSION,
By ——— ———, *Chairman.*

IS.

Federal Radio Commission, A-9.

213 Copy.

Federal Radio Commission, Commerce Building, Washington.

Commissioners: W.H. G. Bullard, Chairman; Orestes H. Caldwell, Eugene O. Sykes, Henry A. Bellows, John F. Dillon.

April 29, 1927.

KMTR Radio Corporation,
1025 North Highland Avenue,
Hollywood, California.

SIR:

Your application for the renewal of your radio broadcasting station license is at hand. Pending final action on the same, you are hereby authorized to operate your station in accordance with the radio law, approved February 23, 1927, using a power output of 500 watts and a frequency of 790 kilocycles (379.5 meters) until further orders are received by you from this Commission.

Until a more definite method of measurement is adopted the power output will be taken as one-half the power (volt-amperes) in the plate circuit of the oscillator, or in the plate circuit of the power amplifier tube if one is used.

This extension is not to be considered as a finding that your operation is in the public interest, convenience, or necessity.

FEDERAL RADIO COMMISSION.
——— ———, *Chairman.*

Federal Radio Commission, A-10.

214 Copy.

Form 2. Official No. 17.

United States of America, Federal Radio Commission.

Radio Station License (Other Than Ship).

Class: Broadcasting. Call Letters: KMTR.

Subject to the provisions of the Radio Act of 1927 and the conditions mentioned in this license, KMTR Radio Corporation is hereby authorized to use and operate the radio apparatus herein described for the transmission of radio communication for the term ending July 31, 1927, unless this license is sooner suspended or revoked.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies or wave lengths specified herein, beyond the terms hereof, nor in any other manner nor at any other time or place than authorized herein. Neither the license nor right granted herein shall be assigned or otherwise transferred in violation of the Radio Act of 1927, and this license is expressly subject in terms to the right of use or control conferred by Section 6 of said Radio Act.

The apparatus authorized to be used and operated by the license is located in the State of California, County of Los Angeles, City or town of Hollywood, North Highland Ave., Street, number 1025, and is described as follows: Western Electric (Type 1-B) V. T. Telephone.

The nature of the service authorized to be rendered
215 under this license is as follows: Broadcasting.

The authorized frequencies or wave lengths, maximum power, call letters, and time of operation are as follows:

Frequency: 570 kilocycles, or wave length 526.0 meters.

Power: Output 500 watts.

Call letters: KMTR.

Time of operation: Unlimited.

As one of the conditions of this license, the licensee is required during the term of this license to render adequate service of the character above specified during the author-

ized time of operation and a violation of this condition will be considered a ground for the suspension or revocation of this license.

This license is issued under and in accordance with the Radio Act of 1927, and all of the terms and conditions thereof are made a part hereof as though specifically set out in full herein.

Dated this first day of June, 1927.

[SEAL.] FEDERAL RADIO COMMISSION,
By —— ——, *Chairman.*

MS.

Federal Radio Commission, A-11.

216 Copy.

Federal Radio Commission, Commerce Building,
Washington.

Commissioners: W. H. G. Bullard, Chairman; Orestes H. Caldwell, Eugene O. Sykes, Henry A. Bellows, John F. Dillon.

RC-3.

August 8, 1927.

KMTR Radio Corp.,
Radio Station KMTR,
1025 N. Highland Ave.,
Hollywood, Calif.

SIR:

Your license to operate your radio broadcasting station, which will expire in a few days, is hereby extended and renewed from its date of expiration until October 14, 1927, on which day it will terminate unless further extended or renewed by this Commission.

This extension or renewal is subject to all the terms and conditions of the now existing license.

FEDERAL RADIO COMMISSION,
By W. H. G. BULLARD,
[SEAL.] *Chairman.*

Appellant's Appendix.

(Included in Record by Appellant and Objected to by Appellee.)

217 B-1.

Received Jany 9th.

Important. Important. Important.

Federal Radio Commission, Washington.

January 4, 1928.

To the Station Manager:

The attached application blanks for broadcast license renewal must be filled out and returned through the Supervisor of Radio of your District, prior to January 15th.

This is necessary if you want your license renewed. All existing broadcasting licenses expire on January 31, 1928.

Very truly yours,

CARL H. BUTMAN,
Secretary.

218 B-2.

January 14, 1928.

Mr. Arthur Batcheller,
U. S. Supervisor of Radio,
Sub-Treasury Building,
New York City.

DEAR MR. BATCHELLER:

Complying with the request of the Federal Radio Commission, I am forwarding to you application forms in triplicate for a broadcasting station license for WGY.

Very truly yours,

——— ———,
Manager of Broadcasting.

HS:CN.
Att. 3.

210 E.

October 26, 1928

Federal Radio Commission,
Washington, D. C.

DEAR SIRS:

1. We are handing to you herewith an application for renewal of the WGY Station License, which is prepared in accordance with the forms furnished by the Federal Radio Commission. It is not on a *printed* form, for the reason that we have been unable to obtain any printed forms.

With that application we are handing to you the affidavits referred to in and forming a part of our answer to question 12 of the application.

We direct your attention also to the statements near the end of our answer to question 12, to the effect that the General Electric Company has no objection to accepting a frequency or wave length different from that upon which it has been operating, provided that it is the equivalent, or substantially as good, in enabling us to render to the public the service which we have been rendering.

Referring to item 17 of the application, it is our position that WGY, because of the character of the service which it has been rendering to the public and the many years which it has rendered that service continuously, is entitled to continue to render such service, though of course we recognize that the United States has a regulatory power which may be exercised as such, though not with the result of depriving the General Company of its established rights, or depriving the public of the service to which it is entitled.

2. We have heretofore filed an application for modification of the reallocation with reference to Station WGY. A letter from the Commission, dated October 17, advises us that this application has been denied. We ask for a hearing in this connection, such a hearing being provided for in the Statute and in the Commission's notification as to the proposed reallocation.

Upon such hearing we request that the application for renewal of license, referred to in paragraph 1 above, and

Appellant's Appendix.

(Included in Record by Appellant and Objected to by Appellee.)

217 B-1.

Received Jany 9th.

Important. Important. Important.

Federal Radio Commission, Washington.

January 4, 1928.

To the Station Manager:

The attached application blanks for broadcast license renewal must be filled out and returned through the Supervisor of Radio of your District, prior to January 15th. This is necessary if you want your license renewed. All existing broadcasting licenses expire on January 31, 1928.

Very truly yours,

CARL R. BUTMAN,
Secretary.

218 B-2.

January 14, 1928.

Mr. Arthur Batcheller,
U. S. Supervisor of Radio,
Sub-Treasury Building,
New York City.

Dear Mr. Batcheller:

Complying with the request of the Federal Radio Commission, I am forwarding to you application forms in triplicate for a broadcasting station license for WGY.

Very truly yours,

_____,
Manager of Broadcasting.

HS:CN.
Att. 3.

219 H.

October 23, 1928.

Federal Radio Commission,
Washington, D. C.

DEAR SIRS:

1. We are handing to you herewith an application for renewal of the WGY Station License, which is prepared in accordance with the forms furnished by the Federal Radio Commission. It is not on a *printed* form, for the reason that we have been unable to obtain any printed forms.

With that application we are handing to you the affidavits referred to in and forming a part of our answer to question 12 of the application.

We direct your attention also to the statements near the end of our answer to question 12, to the effect that the General Electric Company has no objection to accepting a frequency or wave length different from that upon which it has been operating, provided that it is the equivalent, or substantially as good, in enabling us to render to the public the service which we have been rendering.

Referring to item 17 of the application, it is our position that WGY, because of the character of the service which it has been rendering to the public and the many years which it has rendered that service continuously, is entitled to continue to render such service, though of course we recognize that the United States has a regulatory power which may be exercised as such, though not with the result of depriving the General Company of its established rights, or depriving the public of the service to which it is entitled.

2. We have heretofore filed an application for modification of the reallocation with reference to Station WGY. A letter from the Commission, dated October 17, advises us that this application has been denied. We ask for a hearing in this connection, such a hearing being provided for in the Statute and in the Commission's notification as to the proposed reallocation.

Upon such hearing we request that the application for renewal of license, referred to in paragraph 1 above, and

all of the papers forming a part of that application, be taken as a part of the application for a modification of the reallocation.

Very truly yours,

GENERAL ELECTRIC COMPANY,
J. W. LEWIS,
Assistant Secretary.

220 Call Letters: —. Frequency: —. Power: —.

United States of America, Federal Radio Commission.

Application for Renewal of Radio Broadcasting Station License.

(Submit in triplicate to District Supervisor of Radio. Swear to one copy.)

To the Federal Radio Commission:

1. Name of applicant: General Electric Company.
2. Post office address: State, New York; City, Schenectady; Street, River Road; Number, 1.
3. Citizenship: ——.
4. If a corporation, company, or association:

(*a*) Organized under laws of State of New York.

(*b*) May one-fifth, or more, of capital stock be voted by an alien or his representative or by a foreign government or the representative thereof? No.

(*c*) State name and position of any director or officer who is an alien: None.

(*d*) If applicant is a subsidiary, state name and address of parent company: No.

(*e*) Has any change in ownership of this station occurred in the past 60 days? No.

5. Is the applicant the representative of an alien or foreign government? No.
6. Has the applicant, since February 23, 1927, been found guilty by any Federal Court of unlawfully monopolizing, or attempting to monopolize, radio communication
221 through control of manufacture or sale of radio apparatus, exclusive traffic arrangements, or any other means, or by unfair methods of competition? No.
7. Description of transmitting apparatus:

(*a*) Make, General Electric; Type, Special radio telephone; Maximum Power, 150 KW; Minimum, 25 KW; Output power of oscillator or amplifier tube, ZT-1, 15 KW as grid controlled amplifier at 12,500 volts. Electron tubes, number of, Radio Crystal, 1-UX 201; 1-UV 211; 1-UV 849; 2-ZT 7; 6-ZT-1; Audio, 1-UV 211; 1-UV-851; 2-UX 849; 50 KW operation. Oscillators, number of, 1-UX 849; Total plate current, .190 amp.; Total plate voltage, 2000 volts. Modulators, Number of, 2 UX 849; Total plate current, .200 Amp.; Total plate voltage, 3000 V. Amplifiers, Number of, 4 ZT 1; Total plate current, 12 amp.; Total plate voltage, 14,500 V.; 50 KW operation. Type of frequency control employed, Automatic Piezo Crystal control. Temperature controlled. Make of frequency control, General Electric.

(b) Has any change in equipment been made in the past 60 days? Yes, amplifier system and tubes. Spare Complete 12.5 KW transmitter with separate antennae and power supply available.

8. Location of transmitter: State New York, County Schenectady, City or town, Near South Schenectady; Street None, Number None.

(*a*) Approximate number of families within one mile transmitter? 135; Two miles? 1605; Three miles? 5203.

(*b*) Location of studios: Studios located in new International General Electric building conveniently accessible railroad and to all parts of the City. Wire connec-
222 nections to four hotels, 16 churches, 2 theaters, State Capitol, etc.

(*c*) Has any change in location of either transmitter or studio been made the past 60 days? No.

9. Specify actual periods station is operated:

(*a*)	A. M.	P. M.	Total hours daily.
Sunday	10:30-12:00	1:30-2:00	9
		3:30-10:30	
Monday	6:45-8:00	12:30-12:50	
	8:30-8:45	2:00-2:45	
	11:15-11:45	6:00-12:00	
	11:55-12:00		2¼
Tuesday	6:45-8:00	12:30-12:50	
	8:30-8:45	1:30-2:45	
	11:15-11:45	6:00-12:00	
	11:55-12:00		9¾

(a)	A. M.	P. M.	Total hours daily.
Wednesday ...	6:45-8:00	12:30-12:50	
	8:30-8:45	2:00-2:45	
	10:00-11:00	5:00-5:15	
	11:15-11:45	6:00-11:00	
	11:55-12:00		10½
Thursday	6:45-8:00	12:30-12:50	
	8:30-8:45	1:30-3:15	
	11:15-11:45	6:00-12:30	
	11:55-12:00		10¾
Friday	6:45-8:00	12:30-12:50	
	8:30-8:45	1:30-2:45	
	10:00-11:00	6:00-11:00	
	11:15-11:45		9¾
	11:55-12:00		
Saturday	6:45-8:00	2:30-5:00	
	8:30-8:45	7:00-12:00	
	11:15-11:45		
	11:55-12:00		9½
Total Weekly Hours			68½ hrs.

(*b*) Does station divide time, and if so with what station? No.

(*c*) Does station obtain programs from what is known as a "Chain"? Yes, two chains.

223 (*d*) Name of chains N. B. C., Red Network and New York State chain, WFBL—WHAM—WMAK.

(*e*) What is total hours per week of chain programs (i. e. programs, both paid or sustaining, which are duplicated by any other station)? Red Network—36 hrs; New York chain 3.7 hrs.

(*f*) How are stations connected? Wire? Yes; Radio? No.

10. Under existing license:

(*a*) What frequency is used? Kilocycles? 790; Meters 379.5.

(*b*) What power output is employed after 6 p. m.? 50 KW.

(*c*) What power output 6 a. m. to 6 p. m.? Usually employ 12.5 KW spare transmitter.

(*d*) Total number of hours station operated during past 12 months? 3143 hrs. 37 min.

(*e*) State minimum number of hours station will be operated each quarter. 690 hrs.

11. Attach printed program for last week.

12. Why will the operation of the station be in the public convenience, interest, and necessity?

Location:

Station WGY is located at Schenectady and South Schenectady New York. Geographically, WGY is separated by the following distances from the nearest cities with stations operating on exclusive evening channels or frequencies.

142 miles New York.
86 miles Springfield.
249 miles Buffalo.
150 miles Boston.
190 miles Rochester.

Range of station:

The Federal Radio Commission has been advised by Mr. J. V. L. Hogan, radio expert, that the following table satisfactorily defines the range of stations under average conditions.

224

Power of station.	Radius of area of very good service (city dweller).	Radius of area of good service (suburban dweller).	Radius of area of fair service (rural listener).	Radius of nuisance area.
50 watts.....	2 miles	10 miles	100 miles	300 miles
100 watts.....	3 miles	15 miles	150 miles	450 miles
500 watts.....	6 miles	30 miles	300 miles	900 miles
1,000 watts....	9 miles	45 miles	450 miles	1,350 miles
5,000 watts....	20 miles	100 miles	1,000 miles	3,000 miles
50,000 watts...	60 miles	300 miles	3,000 miles	Beyond limits of country

Listeners who have for a considerable period enjoyed programs service from a station within the very good service area will not be content with the services of an inferior grade as listed in the other columns.

Population:

The population living within a 60 mile radius of WGY, which is the approximate "very good service" range of a 50 kilowatt broadcasting transmitter, approximates 1,000,-

000 people. The population within 100 miles of Schenectady approximates 2,400,000. This community, including Albany (New York State capital), Troy, Amsterdam, Utica and many villages and rural sections has depended almost entirely on WGY for radio programs during the past six and a half years. The New York City, Boston, Springfield and Rochester stations are not well received in this vicinity on account of fading and static interference and because this community is outside of the "very good service" range of these broadcasting stations. Many more distant listeners have depended on WGY for a comparatively reliable program source.

The listeners of WGY are largely located outside of the very good service areas of the New York City, Boston, Springfield and Rochester stations as is clearly indicated on the attached map, Exhibit "A."

On this map a circle has been drawn around New York City of 60 miles radius, showing the range of the two fifty kilowatt transmitters there licensed. A similar circle drawn around WGY shows that these two very good service areas do not overlap.

A circle of 34 miles radius has been drawn around Springfield, Mass., showing the proportionate service area of WBZ operating at 15 kilowatts.

225 A 20 mile circle around Rochester indicates the very good service area of Station WHAM at 5 kilowatts.

Public interest & necessity:

Public interest has been clearly indicated in listeners' letters commenting on WGY's entertainment of varied character so selected that they would fill the needs of our comparatively large rural audience which is especially dependent on radio in comparison with residents of the metropolitan areas. It is believed that because of its part in the development of the radio art and its service to broadcast listeners not only in central New York and northern New York, but in Vermont, western Massachusetts, New Hampshire and many other more distant communities, the WGY station activities can not be curtailed without imposing a real public hardship.

Service:

Station WGY was the forty-first station to be licensed and is now the tenth operative station in length of service.

WGY has been operating ever since May 21, 1923 on the 790 kilocycle channel.

Since the inauguration of the WGY service, over twelve thousand hours of programs have been rendered. There are no other stations reliably serving this territory with regular broadcast service which is a condition markedly in contrast with the conditions existing at such centers as New York, Chicago, San Francisco, Boston, where the public would be served by several stations.

New designation:

In accordance with the Federal Radio Commission's letter addressed "To all persons holding licenses to broadcast," dated September 11, 1928, to which was attached a list of radio stations, WGY is designated a limited time station and also as a part time station which would restrict its operation after the time of sunset at Oakland, Cal., corresponding to 8:01 P. M. Eastern Standard time during November, 7:56 P. M. Eastern Standard time during December, 8:17 P. M. Eastern Standard time during January. These restrictions are tantamount to cancelling the license so far as concerns the ability of the station to continue to give to its public the service to which that public is entitled to receive and can only receive from WGY. Without any action or solicitation on the part of the station or its owners, several thousand letters of protest have been received by WGY from persons residing in the areas indicated on the attached map by colored dots. Each of the towns, cities or communities indicated by a red dot have sent (from a minimum of 10 to a maximum of 200
226 letters from Pittsfield, Mass.) letters protesting this curtailment in time of operation of WGY on which they advise they are wholly dependent. The blue dots indicate communities from which letters of protest have been received and stating they are in part dependent on WGY for their service. We have been advised and we believe that many thousands of letters protesting the curtailment of time of operation of WGY have been forwarded to news-

paper offices, the Federal Radio Commission and other depositories. Attached hereto are approximately 25 typical letters such as were received as indicated on the aforesaid map.

Public necessity for development of art:

WGY has the resources of the research laboratories of the General Electric Company and is used as a developmental station for testing new inventions and ideas.

Among the major improvements developed in connection with WGY are the following:

(*a*) Higher-powered transmitters:

This development of higher powered operation depended for its success on the cooperation of the broadcast listeners themselves who in fact became part of the developmental laboratories. It was the public's favorable reaction and its expressed perference for WGY's operation at 50 kilowatts and later at 100 kilowatts that has done so much to make possible the better broadcasting service through what now seems to be a general trend toward an increase of power to 50 KW.

(*b*) Larger vacuum tubes:

The development of larger vacuum tubes making possible higher powered operation.

(*c*) Condenser microphones:

First used for broadcasting purposes in the WGY station eliminating the hiss of the carbon microphones and now being generally adopted by progressive stations.

(*d*) Accurate maintenance of assigned frequency:

WGY was the senior Bureau of Standards standard frequency station.

(*e*) Short-wave developmental broadcasting:

Including the 2XAF and 2SAD stations that are famous and supply programs regularly to many of the continents of the world.

227 Thus, WGY has assisted in designing transmitters and other technical equipment which is now available to all other stations desirous of taking advantage of current developments and result finally in improved broadcast service to all of the general public throughout the country.

The short wave broadcasting was commenced in 1924 and has progressed through various wave lengths—109 meters, 65 meters, 42 meters, and since May 1926, station 2XAF has been operating on about 32 meters and 2XAD on 22 meters.

These short wave stations regularly transmit the same program as WGY on 379.5 meters and listeners in Cuba, Bermuda, Porto Rico, Canal Zone, South America, Europe, Africa, Australia regularly tune to the Schenectady short waves for their entertainment.

If the WGY programs are not available for these short wave stations, then larger groups of listeners will be deprived in many cases of their only broadcast programs.

Under date of July 16, 1928, the applicant forwarded to the Federal Radio Commission an application for two short wave broadcast station licenses and these applications with the supporting descriptive booklet now on file with the Commission are hereby referred to and made a part hereof.

We believe that it is clearly in the public interest to allow this developmental work to proceed without curtailment or interruption.

The General Electric Company is satisfied with its present frequency but understands that the same, under a plan of reallocation, has been assigned to the Fifth Zone. If therefore, such frequency is no longer available, the General Electric Company is prepared to accept in lieu thereof, an equivalent frequency which will enable it to continue the service which it has rendered in the past. The General Electric Company will also accept a power assignment equal to the maximum allowed any other station.

Further answer to this question twelve is embodied in the affidavits of A. J. Horn, Martin P. Rice and Harry L. Ford, hereto attached, marked "A," "B," and "C" and made a part hereof.

(*a*) Average amount of time devoted to following services:

1. Entertainment, 45.75 hours.
2. Religious, 3 hours.
3. Commercial (Mainly and included in 1 and 4), 30.25 hours.

228 4. Educational, 12.75 hours.

5. Agricultural, 3.5 hours.

6. Fraternal, —.

7. Weather & Market Reports & News, 3.5 hours.

(*b*) Is direct advertising conducted in interest of applicant? No; or others? No.

1. Are merchandise prices quoted in interest of applicant? No; or others? No.

(*c*) Does or will applicant sell time? Yes.

1. Average number of hours sold weekly before 6 p. m.? 12.75; after 6 p. m.? 17.5 hours.

2. Average number of hours used weekly in interest of applicant? None directly.

(*d*) Average amount spent weekly for talent? $1221.

(*e*) Total annual net income, exclusive of expense past year: Last 3 mos. 1927—First 9 mos. 1928:

	WGY
Total Operating Expenditures	238,965
Talent expenses (included above)	63,541
Income Commercial programs	67,165

(*f*) If applicant does not propose to sell time how will station be supported? By the General Electric Company.

13. Give names and classes of licensed operators in charge of station. Harry Sadenwater, Commercial Extra First Class; R. S. Hoff, Commercial First Class; C. B. Schou, Commercial First Class.

(*a*) Number of other employees? 17. Total weekly payroll? $970.66.

14. Do you maintain continuous watch on ship calling channel during operative hours? Yes.

15. Does the applicant own or control any other broadcast station? Yes.

(*a*) State number and call letters of such stations. 2—KGO and KOA.

(*b*) Does applicant own or control any radio station other than broadcasting? Yes.

(*c*) Give number and type of any such station: 229 13—Experimental.

(d) For what purpose are those stations used? Developmental and research work.

16. History of station:

(*a*) Date of first license to broadcast: February 4, 1922.

(*b*) First frequency: 832.8; Wave length: 360 meters; Power: 1,500 watts.

(*c*) List all changes in frequency and power authorized, with dates:

May 3, 1922—618.2 KC (485 meters) authorized for weather & market reports.

Sept. 27, 1922—749.6 KC (400 meters) for programs and 618.2 KC for weather reports. Power changed to 1000 watts in the antenna.

May 21, 1923—Assigned 790 KC—1000 watts.

Dec. 31, 1924—Increased to 1500 watts.

Jan. 28, 1925—Increased to 2000 watts.

Aug. 8, 1925—Increased to 3000 watts.

Aug. 22, 24, 25, 1925—Test programs 50 KW.

Aug. 28, 1925—Increased to 3000 watts.

Sept. 10, 1925—Increased to 3500 watts.

Sept. 24, 25, 26, 1925—Test programs 50 KW.

Sept. 30, 1925—Increased to 4000 watts.

Oct. 3, 1925—Authorized operate 50 KW Saturdays and Sundays.

Oct. 13, 1925—Increased to 4500 watts.

Oct. 26, 1926—Increased to 5000 watts.

May 8, 1926—50 KW regular operation authorized.

June 1, 1927—Power reduced to 30 KW.

Aug. 3, 1927—Test programs authorized at 100 KW.

Sept. 1, 1927—Regular programs authorized at 100 KW to Sept. 15.

Sept. 15, 1927—Power increased to 50 KW.

(*d*) On what frequencies and with what power did station operate between July 1, 1926, and February 23, 1927? 790 Kilocycles, 50 KW.

17. The applicant waives any claim to the use of any particular frequency or wave length or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests a radio station license in accordance
230 with this application.

Dated this 23rd day of October, 1928.

GENERAL ELECTRIC COMPANY,

By —— ——.

STATE OF NEW YORK,
County of New York, ss:

J. W. Lewis, being first duly sworn, upon his oath deposes and says he is the (if applicant is not an individual, insert "agent of") agent of above-named applicant and that the statements in the foregoing application are true of his own knowledge, and those made on information and belief, he believes to be true.

J. W. LEWIS.

Subscribed and sworn to before me this 23 day of October, 1928.

GERTRUDE CHANDLER,
Notary Public.

Notary Public, New York County No. 82.
New York County Register's No. 0-4.
Commission expires March 30th, 1930.
Application received.

Oct. 23, 1928.

Radio Supervisor's Report.

Remarks (state any pertinent facts): Application for renewal of broadcast station license covering station WGY. Forwarded for action of Federal Radio Commission.

HENRY L. BOGARDUS,
Actg. U. S. Supervisor of Radio.

(Here follows map, marked page 231).

232 Copy.

Frank Bigelow, Lawyer, 21 Pearl St., Fire Dept. Bldg., Malone, N. Y.

Police Justice of Malone Village.

September 22, 1928.

United States Radio Commission,
Washington, D. C.

GENTLEMEN:

I have been informed that you have made an order which practically puts out of business Station W.G.Y. of the Gen-

FOLD OUT IS TOO LARGE TO BE FILMED

Listeners wholly dependent on WGY

Listeners principally dependent on WGY

General Electric Company
Appellant
vs.
Federal Radio Commission.

Mont Laurier
Wright
Kippen
Bissett
North Bay
Brantford
Galt
Guelph
Huntsville
Midland
Newmarket
Lindsay
Peterborough

eral Electric Company, at Schenectady, N. Y., or that such order stops their broadcasting for practically all the hours of darkness during the winter season.

I can scarcely conceive of any other possible action that could more deeply injure the users of radio receivers in all this "North Country" for it will amount almost to confiscation of the money now invested in Radio sets in the northern tier of counties in New York State, and I think of many more counties to the south and in Vermont, and I desire most earnestly to protest against this order, and to ask you most respectfully to set it aside in the interest of at least a half million people along this northern border. The smaller the receiving sets and the poorer their owners, the more oppressive and confiscatory is this action.

The situation is just this, W.G.Y. is the only American broadcasting station north of New York City and east of Pittsburgh, Pa., which is dependable for service to us in Northern New York, and it almost goes without saying, that neither Pittsburgh nor New York, nor Boston has ever been able to give us as good service as has WGY.

We are able indeed to get good service from the Canadian stations at Ottawa and Montreal, but a great deal of their broadcasting is of interest only to Canadians, and they never broadcast matters of American national interest, as for instance a speech by the President of the United States or by Al Smith or Herbert Hoover, never broadcast any of the proceedings of our political conventions, and the only American matters of importance ever given out by them so far as I know, was the prize fight, which made Gene Tunney finally the champion.

If the common people who listen to broadcasting in northern New York felt sure that a letter would do any good, I think within the next forty eight hours you would receive about one hundred thousand letters at least protesting as strongly as I am doing against your crip-ling W.G.Y. in this matter.

Hoping you will not resent the frankness of this hurriedly written letter but give full consideration to the reasons I have given for my protest, I remain

Very respectfully yours,

FRANK BIGELOW.

233 P. S.—There are broadcasting stations in Buffalo, Syracuse, and Rochester, N. Y., but in two years I have never been able to get anything from them except when I got it through W.G.Y. of Schenectady, they seem absolutely silent and of no use to this North Country.—F. B.

234 Copy.

Children's Court, County of Oneida, County Court House, Utica, N. Y.

Parker F. Scripture, Special County Judge, Rome, N. Y.

Anna D. Rayland, Chief Probation Officer; Minnie A. Simons, Probation Officer; William J. Breitstein, Probation Officer; Nicholas J. Rienzo, Clerk; Iona M. Smith, Court Stenographer.

Sept. 25, 1928.

WGY, General Electric Company,
Schenectady, N. Y.

GENTLEMEN:

For the past seven years I have listened to the interesting, educational and varied programs sent out from your station. During the winter months when one usually spends their evenings at home these programs have been a great help in passing away the dreary evenings and have been available when it has been impossible to get reception from any other station.

Realizing that if the orders of the Federal Radio Commission as it stands at present, regarding WGY, are carried out, we shall be without any form of radio entertainment a great many evenings during the winter, I am writing this letter to you asking that it be considered as a very strong protest against WGY being taken from the air during the evenings to come and that you forward the letter to the proper authorities so that it may add to the thousands of protests which I know will come flocking in when they hear they are going to lose their old reliable friend WGY.

Yours truly,

WALTER L. ROBERTS,
Oneida County Probation Officer, Children's Court.

235 Copy.

September 25, 1928.

Hon. Frank L. Greene,
St. Albans, Vermont.

DEAR SENATOR GREENE:

In common with numerous other Vermonters, you are probably deeply concerned over the reports that a ruling of the Federal Radio Commission will deprive station WGY, of the General Electric Company at Schenectady, New York, of most of its time for evening broadcasting.

By reason of the location of this station, its superior equipment and power, it is by far the station giving the best and most reliable service. Here it is often the only station which we can receive with satisfaction and pleasure, and if this old stand-by is to be thrown off the air, our old friend of the air will be silent, and our homes, instead of resounding—ad libitum—with the fine local and studio programmes of WGY and its frequent broadcasting of feature programmes from the WEAF studio, will either be silent or filled with static etc. brought in with the increased amplification needed to be used in our attempts to bring in more distant stations. You know Vermont winters, and with cold weather coming on, the time is at hand when most folks can look forward to generous returns from their radio investment.

Any influence or effort you may see fit to expend to impress upon the proper authorities the fact that observance of this ruling as now understood will remove from the air not only a pioneer station in experiment and research but probably a station giving virtually the only reliable service to northern New England and New York will be deeply appreciated, not only by our household but by hosts of your loyal friends and supporters.

Mrs. McNeil and Wallace join me in sending our best personal regards.

Cordially yours,
(Signed by) LYMAN B. McNEIL.

236 Copy.

The Old Homestead, Wallace L. McNeil, P. O. Box 35,
Charlotte, Vermont.

September 25, 1928.

Radio Station WGY,
Schenectady, New York.

GENTLEMEN:

I followed with interest the advance reports of the Federal Radio Commission and anticipated something very worth-while and constructive, hoping against hope that this particular body would prove the exception to the usual governmental body and that this commission would show a little intelligence in its findings. But disappointment prevails, for with the ruling which is so likely to deprive WGY of its outstandingly valuable position, one cannot but see the utter lack of fairness and reason in such a decision.

WGY is by far the best station we receive here in northern Vermont; daytime reception is almost always perfect, while most people just tune in on WGY for the entire evening. Your general reports, etc. were the direct cause of my own purchase of two radio receivers (a Radiola Super-Heterodyne and a Brunswick Panatrope with Radiola AC set combined) but even with these two superlatively high quality sets, WGY is often the only service we can pick up in the evening with any satisfaction. Tonight, for instance, at 8/10 o'clock, WGY is coming very well, while only at WJZ and WEAF is it possible to hear any signal, and both these are too weak for any value. I was just talking with a neighbor over the 'phone, and she mentioned that if WGY goes off the air, their receiver will be junked, as no other station reaches us with any steady reliability.

You have pioneered in surveys, etc., but no matter how well and thoroughly made, I doubt if you appreciate half what WGY means to Vermont and northern New York. For balance of programme, combining as you do, market reports, etc., studio and local programmes and connections with WEAF, for all-round value, I believe WGY is our best example, not only of what a well-balanced radio station *could* be, but *is*.

I enclose copy of letter going forward to our good friend, Senator Greene. With all good wishes, I am

Sincerely,

(Signed) WALLACE L. McNEIL.

237 Copy.

Berkshire County Savings Bank, Life Insurance and Annuity Department, Pittsfield, Massachusetts.

William L. Adam, Treasurer; William H. Barrows, Manager of Department.

September 25, 1928.

WGY Broadcasting Station,
Schenectady, N. Y.:

Please send the following to where it will do the most good.

I am only one of many hundreds who living in this particular district depend almost entirely on WGY for radio entertainment. If this station were taken away, as there is talk of so doing, it would mean that all radio sets, whether powerful or otherwise would be practically of no use to their owners.

My own set is a fair average, being a six-tube Fada, but unless it is an exceptional night, I get no dependable reception except through WGY. That has been the one and only salvation of people living in this part of the country. Reception from any other stations either is so faint in volume that one has to strain their ears to listen, or else it comes in loud one minute, fading out to nothing the next. When one tunes into WGY we are always sure of being able to leave the dials in the same place and listen for as long as the station is broadcasting to good, clear reception.

If a vote were taken as to whether WGY should be taken off the air or left as it has been, I feel sure it would be a unanimous one to leave things as they are now.

Anyone in the radio business would soon fail if WGY is not to broadcast any more than one hour each evening. No one would risk buying a set without being sure of at least one good station to turn to when all else fails.

Yours very truly,

A. G. MESTON,
61 Pomeroy Ave., Pittsfield, Massachusetts.

238 Copy.

Edward Mead Earle, Glenwood, Saranac Lake, N. Y.

25 September, 1928.

General Electric Company,
Schenectady, N. Y.

GENTLEMEN:

I hope you will give this letter particularly careful attention, as it is a matter of vital concern. I am one of between fifteen hundred and two thousand victims of tuberculosis who are curing at Saranac Lake and whose principal contact with the outside world is the radio. Of these patients, a very considerable number is bed-ridden and some 150 veterans of the Great War; to deprive them of dependable radio service is to take away the greatest pleasure they enjoy. It is also to confiscate the thousands of dollars they have expended upon radio equipment. What is true of the patients at Saranac Lake is true of the patients at the various sanitaria at Trudeau, Raybrook, and Tupper Lake—the last named maintained by the U. S. Veterans Bureau.

WGY is the only station which we can obtain with any degree of success, as reception conditions are not good in the Adirondacks. If WGY is taken off the air after sunset, our long winter evenings are destined to be particularly gloomy. Surely the Federal Radio Commission is prepared to take into consideration the situation of this large constituency which is particularly in need of radio service, as its only available source of amusement.

I am normally a resident of the City of New York, but I see no reason why it—with its limitless resources for outside entertainment—should be given four high-powered stations at the expense of those other sections of the State which are less fortunately situated.

If you think it will do any good, I shall write either or both of the U. S. Senators representing New York. This protest against bureaucratic interference from Washington should be made as vigorous and as effective as possible.

Faithfully yours,

(Signed) EDWARD MEAD EARLE.

239 Copy.

Murray A. Dekin, Lowville, N. Y.

Upholstering, Refinishing, Crating, Shipping.

September 25th, 1928.

Station WGY,
General Electric Co.,
Schenectady, N. Y.

GENTLEMEN:

It is with that peculiar feeling that denotes that an injustice is about to be done, that I learn that WGY is to be made a part time station; by order of the Federal Radio Commission.

For nearly six years WGY has been and continues to be the backbone of local radio entertainment. In fact, except for local thunder-storms, I do not recall a single time that WGY has failed to come through. I would not dare attempt to estimate the number of nights when the broadcast of this station was all we could get.

Please do not construe that the basis for the above statements is the ownership of an inferior Radio set, as I am more than satisfied with the Zenith machine which I now own.

If there is any way I can be of assistance in trying to avert the injustice of a silent WGY through the long winter nights of this North country, please do not hesitate to call upon my humble assistance.

Very truly yours,
(Signed) MURRAY A. DEKIN.

240 Copy.

531 Elizabeth St. Oneida, N. Y., Sept. 27, 1928.

Station WGY,
Schenectady, N. Y.

GENTLEMEN:

It has recently been brought to my attention through the press and over the radio, that there is talk of WGY's being

forced off the air after 7:45 P. M. through the winter months by the Federal Radio Commission.

I herewith wish to enter protest against such action as WGY is my best station through which many splendid programs are received. Were it not for WGY the radio would be of little value many nights, as reception is such that many other stations cannot be brought in. If WGY is taken off the air I may as well sell my set, which is a Grebe and therefore not a cheap set.

Trusting action may be taken so that WGY may remain on the air as usual, I am

Yours very truly,

(Signed) GRACE T. HALLIDAY.

241 Copy.

Uburn Mercantile Co., Incorporated, Wholesale Grocers, Importers, and Coffee Roasters, Auburn, N. Y.

Office and Warehouse: Foot of McMaster Street.

Cream of the Harvest Products.

September 24, 1928.

Radio Station WGY,
Schenectady, N. Y.

GENTLEMEN:

I have been told that the Federal Radio Board contemplates greatly reducing your hours for broadcasting.

We have at home a Radiola 28 and have depended innumerable times on your station for our entertainment. Plenty of times the New York reception is bad and we usually can get it nicely from WGY and besides, we enjoy the programs originating with WGY.

Our experience is the same as thousands of others in this section and we certainly hope your activities will not be interfered with.

Yours very truly,

W. B. HÆFFNER.
M. C.

242 Copy.

Green Hill Mining Co., Inc., Gouverneur, N. Y.

Feldspar, Flint, Talc, Dolomite, White Marble, Marble Dust, Stucco Dash, Lead Free, Zinc Ore.

New York Office: 141 Broadway. Telephone: 5432 Rector.

September 24, 1928.

Radio Commission,
Washington, D. C.

Atten. Mr. O. H. Caldwell, Commissioner.

GENTLEMEN:

My attention has just been called to the outrageous ruling just issued by your commission, whereby WGY broadcasting station of the General Electric Co., at Schenectady is to be silenced during the evening hours.

For your information I beg to say that WGY is about the only source of radio waves which is at all dependable for the people residing in Northern New York.

It is seldom that we do not get WGY, but all others are silent much of the time, except Canton, N. Y., Prescott and Ottawa, Ontario. As you known, Canton and Prescott put on phonograph programs almost exclusively in the way of music and Ottawa is not dependable, except in the early afternoon.

Our operations are in remote locations and no other source of entertainment is available and if you persist in your erroneous order whereby WGY will be eliminated, our 50 to 75 employees will be deprived of practically all of the pleasure of radio which they now enjoy.

I believe that I express the strong opinion of all Northern New York when I request that you withdraw the ruling which will eliminate WGY during the evening hours and

restore the status quo, whereby we receive good service and excellent programs.

Yours very truly,

(Signed) J. H. McLEAR,
President.

WGY.

For your information.

J. H. M.

Copy.

243 F A D A RADIO.

A. L. Damon, Exclusive Agent.

Rochester, N. H., September 24, 1928.

To the Managing Director Station WGY,

Schenectady, New York.

DEAR SIR:

If it is true, as various recent newspaper articles would apparently bear out, that WGY is likely to suffer a serious curtailment of its present operating schedule by order of the Federal Radio Commission, I would like to join in the protest against any action of this nature.

To those living within the limits of the metropolitan districts where reception, as a whole, is confined to local stations, the issue may not seem of particular importance. But, to those listeners who are located outside of such areas, good radio reception is determined largely by the functioning of stations which are not only capable of but do furnish programs that represent the utmost, both in quality of the offering itself and quality of broadcasting. Even in the so called rural districts strictly good reception, with the type of receiving set within the means of the ordinary buyer, will average as possible only from a few stations. WGY is one of them. A listener in the country may pick up fifty to seventy-five stations, but still, real worth while reception is usually confined to a comparatively few.

As an ardent radio fan and also a dealer over some little period — feel that I am somewhat qualified to make the above statement. Will amplify it by stating that in this

part of New England, and I personally know it holds true in other sections, WGY is a standby.

During the day, it is admitted that we depend largely on more local stations. At night, however, the condition is reversed. Unless a radio listener is possessed of an extremely high grade and selective receiver, the more local stations, such as Boston, etc., are out of the picture entirely. Even tho they can be heard, under anything like normal conditions, the reception, from the standpoint of quality, is not to be compared with that from WGY. If this holds true in other sections of the East, other than the metropolitan districts, and we also take into consideration the vast amount of research work done by the WGY in furtherance of the interests of better broadcast reception, it would indeed seem that any curtailment of their present service would be to the detriment of thousands of radio listeners in the territories referred to. I feel that I speak for countless others in making these statements.

If it will help a little bit to use this letter, you are welcome to do so.

Very truly yours,

(Signed) A. L. DAMON.

ALD/B.

244 Copy.

14 Summer Street, Adams, Massachusetts.

Station W.G.Y.,
General Electric Co.,
Schenectady, N. Y.

GENTLEMEN:

When the announcement was made that we were to be robbed of the services of your great station—the greatest of all stations—we were inclined to believe that behind such a preposterous arrangement must be W.G.Y. itself. We were greatly relieved a few nights ago after waiting patiently for some overture on the part of the station to know that after all W.G.Y. still rang true.

We were among the first in this section to have a radio—soon after W.G.Y. went on the air. For nearly six years we have listened daily to your station; it has been and still

is our standby. While we have W.B.Z. at an equidistance we do not have any such service as W.G.Y. gives us.

The listeners in Adams are unanimous in agreeing that W.G.Y. is the only station which cuts thru the static so peculiar to the mountain section in which we live. W.G.Y. is the only station upon which we can rely for uniform reception day or night.

To take W.G.Y. away means evenings of the same kind of unsatisfactory reception we get nights after W.G.Y. signs off. We have the latest model Federal 6 tube set and we have no difficulty getting other stations—sometimes we've had K.F.I.—but we aren't fishermen, for we can get the choicest programs by turning the dial to W.G.Y. and letting the station and the National Broadcast do the rest. There is too much fading and interference from other stations and we would not care much for radio if W.G.Y. were to be eliminated.

I am writing our congressman Allan T. Treadway who I understand is already interested; I have written Mr. Lunn at the request of my 85 year old grandmother who is blind and who has been kept alive by the radio. If I can be of further service to you in any way do not hesitate to write me.

Just now we are interesting ourselves in low wave broadcasting and had looked forward to hearing W.G.Y. broadcast European programs.

Respectfully,

FLORENCE DE L. BOOM.

245 Copy.

H. Stewart Bosson, Real Estate & Insurance, Meredith Neck, on Lake Winnipesaukee, Meredith, New Hampshire.

Telephone Connection.

September 24, 1928.

Broadcasting Station W G Y,
Schenectady,
New York.

DEAR SIRS:

I understand that a tentative plan is to somewhat curtail, by the Radio Commission, your services to the public.

I wish to register my protest against anything which will make it impossible for me to receive from your station the reception I have had in the past. Undoubtedly a great many people in New Hampshire use W G Y in order to get WEAF programs.

Yours very truly,

H. STEWART BOSSON.

HSB:EG.

246 Copy.

National Life Insurance Company, Montpelier, Vermont.

A. B. Bisbee, M. D., Second Vice-President and Medical Director; E. A. Colton, M.D., Assistant Medical Director; G. E. Allen, M. D., Assistant Medical Director.

September 26, 1928.

Radio Station W.G.Y.,
Schenectady,
New York.

GENTLEMEN:

We have noted with concern the newspaper reports that your broadcasting hours are to be seriously curtailed after early November. We also heard the remarks from your Station over the air.

For the past two years we have had consistently good reception from your Station and we have also felt pleased with the character and quality of your programs. There is no other station on which we can depend for service as we can on W.G.Y. During the flood conditions in November, 1927, we believe W.G.Y. rendered very valuable service to the afflicted area. It seems to me that it would be a serious mistake to any way detract from your Station's activities.

Yours very truly,

E. A. COLTON.

EAC/M.

Copy.

247 [SEAL.]

The Liverpool and London and Globe Insurance Co., Ltd.
Entered United States 1848.

Phipps & Dolson, Agents, 1260 Liberty Street, Franklin, Pa.

Losses Paid in Great Conflagrations: San Francisco, 1906, $4,522,805; Chicago, 1871, $3,239,491; Boston, 1872, $1,427,290; Baltimore, 1904, $1,051,543.

September 25, 1928.

Station W. G. Y.,
Schenectady, N. Y.

GENTLEMEN:

I heard a gentleman speaking from your station last evening in regard to some ruling of the Radio Commission that would take W. G. Y. from the air. I get great pleasure from your station and can get you frequently when it is impossible to get W. J. Z. or W. E. A. F.

I trust that the Radio Commission may be induced to change its ruling so that we may continue to get the pleasure that we now do, from your station.

Sincerely yours,

C. B. DOLSON,
Franklin, Pa.

Copy.

248 A. A. Dekin & Sons, Funeral Directors, Furniture, Lowville, New York.

September 25th, 1928.

Station WGY,
General Electric Co.,
Schenectady, N. Y.

GENTLEMEN:

I wish to enter protest against the change of WGY to a part time station.

WGY is the only station we can rely upon, in this Northern section, for dependable Radio.

Very truly yours,

A. A. DEKIN.

Copy.

249 Gloversville Business School.
A. A. Burr, Proprietor.

Bookkeeping, Arithmetic, Penmanship, Salesmanship, Commercial Law, Spelling, Correspondence, Shorthand, Typewriting, and Banking.

Gloversville, N. Y., September 26, 1928.

W. G. Y. Broadcasting Station,
Schenectady, N. Y.

GENTLEMEN:

I wish to express my protest which the Radio Commission is contemplating to shut off 1,000,000 listeners from your station. The service has been first-class and I feel that it would ruin the sale of radio equipment in this section. Every one I meet is protesting against it.

If this measure is put through there will be a great many shut off entirely from the radio service. I am not a radio dealer, but I am intensely interested in the welfare of this part of the state and in radio service.

Yours cordially,

AAB/C. A. A. BURR.

(Seal) Accepted Commercial School, National Association.

The Emblem of the Efficient School.

Copy.

250 Collinsville, Conn., Sept. 25, 1928.

Station W. G. Y.,
Schenectady, N. Y.

To whom it may concern:

Though a resident of Connecticut I surely hope something may be done to allow your station the same wave length and full time broadcasting.

We are 15 miles from Hartford (WTIC) by automobile (not as the crow flies), 28 miles from Springfield WBZ and 150 miles from New York City.

I do not know the distance from your station but it is the most satisfactory of all.

While we have always been able to get WEAF, WJZ, WOR and other stations I usually get most of the chain programs from WGY as it comes in much better, with less interference, less battery power and therefore less static and trouble.

Situated as we are if we were unable to get any other station except WGY we would still be well provided for with a few possible exceptions.

Your orchestra programs from hotels direct through your station are always fine.

Your plays have been very entertaining and many other things of interest.

I must also mention the clarity of your announcers. Hoping my protest will help with many others and best wishes for good luck, I am.

Very sincerely,

SARAH D. DARLING.
(MRS. CHARLES S.)

Copy.

251

261 Main St.,
Binghamton, N. Y., Sept. 24, 1928.

Station WGY:

Please enter my protest, against the Commission, deciding to put WGY on a part time basis.

If this plan is carried thru, it will reduce the usefulness of my set, 75%, as we simply are unable to get any satisfactory programs until real late at night, unless WGY is broadcasting, my set is not of the small type either.

I feel that an injustice is being done to us that have always been dependent on WGY for satisfactory program reception, and am sure that there are many more here in Binghamton of the same attitude.

Have the Commission come to Binghamton and make tests, I am sure they will understand why we want WGY.

A. D. BELT.

252 Copy.

C. E. Buchanan, M. D., Claremont, N. H.

Sept. 29, 1928.

I have not got a radio but shall have one within a month if your station continues to function in the future as it has in the past, if it does not I shall have no radio as I know from long observation that your station is the only one that we can depend on here and in this vicinity for many miles,

Yours truly,

C. E. BUCHANAN,

To Station W.G.Y., Schenectady, N. Y.

253 Copy.

Pottsville Fertilizer Works, O. L. Romberger, Proprietor.

Manufacturers of Meat Scraps, Tallow, and Grease. Hides and Tallow, Automobile Tires.

Office and Works: "Seven Stars."

P. O. Box 140, Pottsville, Penna. Telephone: No. 47-J, Schuylkill Haven Exchange.

Sept. 26th, 1928.

Federal Radio Commission:
Washington, D. C.

DEAR SIRS:

This is written to voice my opposition to the Radio Commission's ruling; Relative to the Discontinuing of W.G.Y.'s Evening and Night broadcasting. It has been a great source of Entertainment and Education in this Locality; And is not fair to be deprived of it.

It is customary in this locality to get W.E.A.F. Programs thru W.G.Y. as reception is much better thru W.G.Y. With the discontinuing of W.G.Y. the Nat. Broad. Co., Station W.E.A.F. will be closed in this locality.

Respectfully,

(MRS.) O. L. ROMBERGER.

254 Copy.

The Smith Co., Scranton, Penna.

Outdoor Advertising.

Signs of All Kinds, Lettering for All Purposes.

Sept. 27, 1928.

Station W. G. Y.,
General Electric Co.,
Schenectady, N. Y.

GENTLEMEN:

Having learned with regret that the Radio Commission contemplates interfering with the broadcasting of your highly enjoyable programs, I herewith desire to voice my emphatic protest of this action.

Your programs are interesting, educational; the best of talent is employed and, further, W. G. Y. will come in strong when other stations are very often inaudible.

It would be unfair on the part of the Radio Commission to interfere materially with your station. In this I know I am joined with by many thousands and thousands of your "listeners in" who have the same sentiments but will fail to express them to you in writing.

With best wishes for future success and "existence," I am

Sincerely,

FAY D. CAVELL.

255 Copy.

Lee, Lenox, Stockbridge, Tyringham and Otis,

Fine Book and Commercial Printing.

The Berkshire Cleaner, Lee, Mass., in the Berkshire Hills.

Established 1858.

Maitland P. Foster, Publisher; William H. Spear, Editor and Manager; Leon Nettleton, Local Editor.

[SEAL.]

State Line, Mass., September 23, 1928.

Manager of W.G.Y. Radio Station of General Electric Co., Schenectady, N. Y.

DEAR SIR:

It is with sincere regret that the many radio listeners of this region, dependent on the excellent service of your radio station, learn that this service is to be curtailed by act of the Radio Commission, and that after a state date we are to be deprived of evening service by your station.

We consider this an outrageous shame and one that shows very little comprehension on part of the Radio Commission of the needs of this region for a broadcasting station such as W.G.Y., has proved itself to be. It leaves many radio listeners stranded, so far as service goes, this elimination of W.G.Y. whose splendid service so many of us have depended upon not only for the broadcasting of its own fine programs, but for the transmission of the New York programs, now so much enjoyed.

With your broadcasting service cut out, it is going to be a Saharah of desolation, so far as radio transmission goes, for much of this region, now served by your station. Many of us are unable to get W E A F of New York independently, due to peculiar air conditions, where we tune in on it alone, and when on those rare occasions where we do get it independently, it comes so faint and indistinct as to be utterly unsatisfactory.

There was a time when we could get W.J.Z. and KDKA and WBZ and some good Chicago stations on our radios,

but latterly, since some of the members of this radio commission have been "monkeying" with the air waves, we can get little or nothing from these stations, and with W.G.Y. cut out, the radio reception bids fair to be worthless to us.

Isn't it possible for W.G.Y. to get some satisfactory adjustment of this matter that will not deprive scores of listeners in, who have invested in radio sets, which with the W.G.Y. elimination, soon bid fair to be worse than useless. People have money thus tied up upon which they cannot realize, if this deal goes into effect.

256 It seems to scores of us in this section, that the radio commission ought to have brains enough to sidetrack this proposed deal so it will not be carried out. If they would please a large number of radio listeners they will show a grain of common sense and let W.G.Y.'s wave length alone.

Sincerely yours,

WILLIAM H. SPEAR,
Box 47, State Line, Mass., Berkshire County, in behalf of scores of other radio listeners.

257 Copy.

Tri-County Road Association, completing the Williamsport-Elmira Road, making a perfect highway, Washington to Montreal.

John D. Allison, President, Roaring Branch, Pa.; William S. Millener, Secretary-Treasurer, Williamsport, Pa.

Executive Committee: A. H. Vosburg, Wellsboro, Pa.; O. H. Evans, Wellsboro, Pa.; D. F. Pomeroy, Troy, Pa.; E. F. Innes, Canton, Pa.; H. W. Jones, Ralston, Pa.; F. M. Sprout, Muncy, Pa.

Williamsport, Pa., Sept. 27th, 1928.

The W.G.Y. Broadcasting Station,
Schenectady, N. Y.

GENTLEMEN:

We were somewhat surprised to learn that the Federal Radio Commission had given some thought to silencing

W.G.Y. station during the evening hours. W.G.Y. is one of the very few stations giving a remarkably clean program that the general public can always get fair reception from even when the conditions are unfavorable.

There is no argument in your case if put before the commission in an intelligent manner, and to my mind, there is no one better qualified to do this than the General Electric Corporation.

Very respectfully,

JNO. D. ALLISON.

258 Copy.

Miss Eva G. Smith, 80 Summer Street, Barre, Vermont.

Sept. 25, 1928.

Station W. G. Y.,
Schenectady, N. Y.

DEAR SIR:

We were astounded to hear last night that W. G. Y. was to be a part time station. If this is so, we may as well sell our radio for it is the only station we can depend upon. Since I did not get the address of the one to write to, I am sending this to the station and wish you would forward it as a protest.

Very truly,

EVA G. SMITH.

259 Copy.

Herbert F. Millard, Northfield, Mass.

September 26, 1928.

Radio Station W-G-Y,
Schenectady, N. Y.

DEAR SIRS:

W-G-Y being one of our most dependable stations and the one on which we largely rely for information and entertainment it is with sincere regret and a feeling of personal loss that we note that you are liable to be ruled off the air during the evening, and we hope that arrangements may

be made that will avoid this curtailment of our privileges, and insure the continuance of your evening programs.

Yours respectfully,

H. F. MILLARD.

260 Copy.

Dean S. Drake, M. D., White River Junction, Vermont

September 25th, 1928.

Radio Station "W.G.Y.,"
Schenectady, N. Y.

My Dear Sirs:

I understand there is some possibility of limiting your station time "on the air."

I want to tell you that my *very best* results are through "W.G.Y." and I want to register my earnest protest against any curtailment of your stations privileges.

We all, in this section, would *sorely miss* the splendid entertainment we enjoy through "W.G.Y."

Last evening, especially, the Opera, Rigoletto, was *simply magnificent.*

Hoping that we may continue to enjoy your fine programmes,

I am, Very truly yours,

D. S. DRAKE.

261 Copy.

47 Benton Avenue, Waterville, Maine, Sept. 28, 1928.

Radio Station W.G.Y.,
Schenectady,
New York.

This station gives us the best reception of any station on our radio. If this station were to be deprived of its evening broadcasting it would indeed be a great loss to us, as far as the radio is concerned.

The station in our own state gives us good reception but W.G.Y. is our best all-around station.

Hoping this station will continue its evening broadcasting, I am

Yours very truly,

(Miss) FLORENCE HARDING.

262 Copy.

The Franklin Fire Insurance Company of Philadelphia.

New York Office: Fifty-nine Maiden Lane.

Charles L. Tyner, President; Edward L. Warren, Agent.

Bucksport, Maine, Sept. 28/28.

Manager Station W.G.Y.

DEAR SIR:

Re the proposed scheme of putting W.G.Y. on part time is to my mind the rankest kind of discrimination. I shall protest vigorously against this raw deal being handed you. We all in this part of the woods cannot get along without your splendid service and excellent programs. For weeks in the Summer W.G.Y. is the only station we can depend on getting. This proposed change is a great injustice to the people of Eastern Maine.

Yours truly,

[SEAL.] L. E. WARREN.

"You may delay, but time will not."—Benjamin Franklin.

263 Copy.

Burlington, Vt., Sept. 25, 1928.

Radio Station WGY,
Schenectady, N. Y.

DEAR SIR:

I am one of the majority of radio fans that want the continuance of your station, because with your station silent, our radio sets will be silent, as your station is the only one that we can "get" consistently.

To help our cause along, I have written a letter of protest to each of our senators and congressmen, concerning the unjust ruling of the Federal Radio Commission.

Hoping that we will not lose our best and most reliable friend, I am

Respectfully yours,

RALPH W. LAFAYETTE,
3 No. Champlain St., Burlington, Vermont.

264 Copy.

Syracuse Steam Generator Inc., Manufacturers Ideal Steam Generators, Ideal Laundry Steam Power Press-Ironers, South Avenue and Grant Place.

Syracuse, N. Y., Sept. 25, 1928.

Radio Station WGY,
Schenectady, N. Y.

GENTLEMEN:

It is with deep regret that we learn of the proposed change in your wave length.

Yours is one of the most dependable stations we tune in on, also the easiest to eliminate when we are tuning for other stations.

We the undersigned ask as a special favor that no change be made.

We remain
Yours truly,

WM. J. LEWIS.
DORWIN F. GIVEN.

Your station is the most dependable. No other station in that dial than your station come- in on 45°. I have a Day Fray 42 or 47 tune you out.

265 Copy.

Evans & Company, Golden Fleece Mills, Manufacturers of Australian Lamb's Wool Waddings and Battings, Lockport, N. Y.

September 25th, 1928.

GENTLEMEN:

I earnestly hope that the order causing you to close after dark during this winter will be canceled, for the reason I and my family enjoy your programs very much, and they

come in better than WMAK of Buffalo. So long as you have been broad casting for some time and every thing was or rather worked out fine, I can't see why the change. I earnestly hope you will win in your endeavor to keep on as you are now. I live in Olcott and scarcely an evening but what we have tuned in on your programs.

The majority of the listeners do not listen until after 7 P. M. anyway. As the majority have business of some-kind that they attend to during the day.

Yours, very truly,

E. R. VANALLEN,
Olcott, N. Y.

266 From W. T. Meenam News Bureau

General Electric Company, Schenectady, N. Y.

WGY

Notice: Evening programs of WGY will also be transmitted by 2XAF on 31.4 meters, Monday, Tuesday, Thursday and Saturday, and by 2XAD on 21.96 meters, Monday, Wednesday, Friday and Sunday.

Television Schedule: Tuesday, Thursday and Friday, 1:30 p.m. to 2:00 p.m.; Sunday, 10:15 to 10:30 p.m., E.S.T., 379.5 meters and 21.96 meters; Tuesday, 11:30 to 12:00 p.m., 379.5 and 31.4 meters.

The WGY short wave stations are developmental stations and this schedule may be changed or discontinued at any time.

Sunday, October 21.

WGY (Schenectady, N. Y.)

General Electric Company.

790 Kilocycles (379.5 Meters).

Channel 79.

Eastern Standard Time.

10:30 a.m. —Service of First Presbyterian Church, Rev. W. H. Hopkins, pastor [Albany, N. Y.].

1:30-2:00 p.m. —United Radio Corporation program [New York].
3:30-4:00 p.m. —Organ recital, Memorial Chapel, Union College, by Elmer Tidmarsh.
4:00 p.m. —Men's Conference, Bedford Branch, Y.M.C.A., Dr. S. Parks Cadman, speaker [Brooklyn, N. Y.].
5:30 p.m. —Acousticon program [New York].
6:00-6:30 p.m. —"Stetson Parade"—American Legion Band [Boston, Mass.].
6:30 p.m. —Musical program [New York].
7:00 p.m. —Lehigh program [New York].
7:30 p.m. —Capitol Theatre program [New York].
9:00 p.m. —Address, "Our Government," David Lawrence, editor, *United States Daily* [Washington, D. C.].
9:15 p.m. —Atwater Kent Hour [New York].
10:15-10:30 p.m.—Television transmission.

267 Monday, October 22.

WGY (Schenectady, N. Y.).

General Electric Company.

790 Kilocycles (379.5 Meters).

Channel 79.

Eastern Standard Time.

6:45-8:00 a.m. —Setting-up exercises.
8:30-8:50 a.m. —"Cheerio" talk and music.
11:15-11:30 a.m.—Radio Household Institute [New York].
11:55 a.m. —Time signals.
12:00 m. —Weather report.
12:02 p.m. —Produce market report.
12:10 p.m. —Farm flashes.
12:30 p.m. —New York stock reports.
12:45 p.m. —Weather report.
2:00 p.m. —French Lesson, Madame Marie Chantemerle.
2:30-2:45 p.m. —WGY Household chats.

6:00 p.m. —Democratic state committee program [New York].
6:30 p.m. —Stock reports, produce market report, farm forum and news items.
7:00 p.m. —Mutual Savings Bank program [New York].
7:30 p.m. —Musical program.
8:00 p.m. —Republican national campaign.
8:30 p.m. —A. & P. Gypsies [New York].
9:30 p.m. —General Motors Family party [New York].
10:30 p.m. —Correct time.
10:30 p.m. —Musical program.
11:00-12:00 p.m.—Sax Smith and His Cavaliers [Rochester, N. Y.].

Tuesday, October 23.

WGY (Schenectady, N. Y.).

General Electric Company.

790 Kilocycles (379.5 Meters).

Channel 79.

Eastern Standard Time.

6:45-8:00 a.m. —Setting-up exercises.
8:30-8:50 a.m. —"Cheerio" talk and music.
11:15-11:30 a.m.—Radio Household Institute [New York].
11:30-11:45 a.m.—Republican national campaign.
11:55 a.m. —Time signals.
12:00 m. —Weather report.
12:02 p.m. —Produce market report.
12:10 p.m. —Farm flashes.
12:30 p.m. —New York stock reports.
12:45 p.m. —Weather report.
1:30 p.m. Television transmission.
2:00 p.m. —Organ recital, Emlyn Jones, Proctor's Theatre [Schenectady, N. Y.]
2:30-2:45 p.m. —WGY Household chats.

6:00 p.m. —Stock reports, produce market report, farm forum and news items.
6:30 p.m. —Dinner music, Hotel Ten Eyck [Albany, N. Y.].
7:00 p.m. —Voters' Service [Washington, D. C.].
7:30 p.m. —Soconyland sketches [New York].
8:00 p.m. —National Radio Institute program [New York].
8:30 p.m. —Seiberling Singers [New York].
9:00 p.m. —Eveready Hour [New York].
10:00 p.m. —Clicquot Club Eskimos [New York].
10:30 p.m. —Correct time.
10:30 p.m. —Vaughn DeLeath with novelty orchestra.
11:00 p.m. —Palais d'Or orchestra.
11:30-12:00 p.m.—Television transmission.

Wednesday, October 24.

WGY (Schenectady, N. Y.).

General Electric Company.

790 Kilocycles (379.5 Meters).

Channel 79.

Eastern Standard Time.

6:45-8:00 a.m. —Setting-up exercises.
8:30-8:50 a.m. —"Cheerio" talk and music.
10:00-11:00 a.m.—National Home Hour [New York].
11:15-11:30 a.m.—Radio Household Institute [New York].
11:30 a.m. —Democratic national campaign.
12:00 m. —Weather report.
12:02 p.m. —Produce market report.
12:10 p.m. —Farm flashes.
12:30 p.m. —New York stock reports.
12:45 p.m. —Weather report.
2:30-2:45 p.m. —WGY Household chats.
6:00 p.m. —Democratic state committee program [New York].

6:30 p.m. —Stock reports, produce market report, farm forum and news items.
7:00-7:30 p.m. —"Mr. and Mrs. Skits."
7:30 p.m. —"La Touraine Tableau." [New York].
8:00 p.m. —*Woman's Home Companion* Hour [New York].
9:00 p.m. —Ipana Troubadours [New York].
9:30 p.m. —Palmolive Hour [New York].
10:30 p.m. —Democratic national campaign.
11:00 p.m. —Correct time.

Thursday, October 25.

WGY (Schenectady, N. Y.).

General Electric Company.

790 Kilocycles (379.5 Meters).

Channel 79

Eastern Standard Time.

6:45-8:00 a.m. —Setting-up exercises.
8:30-8:50 a.m. —"Cheerio" talk and music.
11:15-11:45 a.m.—Radio Household Institute [New York].

268

11:55 a.m. —Time signals.
12:00 m. —Weather report.
12:02 p.m. —Produce market report.
12:10 p.m. —Farm flashes.
12:30 p.m. —New York stock reports.
12:45 p.m. —Weather report.
1:30 p.m. —Television transmission.
2:00 p.m. —Hotel Van Curler orchestra.
2:30-2:45 p.m. —WGY Household chats.
2:45 p.m. —One-act play, WGY Matinee Players.
6:00 p.m. —Stock reports, produce market report, farm forum and news items.
6:30 p.m. —Dinner music, Hotel DeWitt Clinton [Albany, N. Y.].

7:00 p.m. —"Footnotes," T. Arthur Cohen.
7:02 p.m. —Dinner music, Hotel DeWitt Clinton [Albany, N. Y.]
7:30 p.m. —WGY agricultural program.
8:00 p.m. —Forhan Company program [New York].
8:30 p.m. —Hoover Sentinels [New York].
9:00 p.m. —Republican national campaign.
9:30 p.m. —"With the Joneses."
10:00 p.m. —Halsey Stuart presentation [New York].
10:30 p.m. —Correct time.
10:30 p.m. —Vaughn DeLeath with novelty orchestra.
11:00 p.m. —Palais d'Or orchestra.
11:30 p.m.-12:30 a.m.—Organ recital, Floyd Walter, Strand Theatre [Albany, N. Y.].

Friday, October 26.

WGY (Schenectady, N. Y.).

General Electric Company.

790 Kilocycles (379.5 Meters).

Channel 79.

Eastern Standard Time.

6:45-8:00 a.m. —Setting-up exercises.
8:30-8:50 a.m. —"Cheerio" talk and music.
10:00-11:00 a.m.—National Home Hour [New York].
11:15-11:45 a.m.—Radio Household Institute [New York].
11:55 a.m. —Time signals.
12:00-12:15 p.m.—Forhan Company program.
12:15 p.m. —Weather report.
12:17 p.m. —Produce market report.
12:25 p.m. —Farm flashes.
12:45 p.m. —New York stock reports.
1:00 p.m. —Weather report.
1:30 p.m. —Television transmission.

2:00 p.m. —Phil Romano and his orchestra, Hotel DeWitt Clinton [Albany, N. Y.].
2:30- 2:45 p.m.—WGY Household chats.
6:00 p.m. —Stock reports, produce market report, farm forum and news items.
6:30 p.m. —Dinner music.
7:25 p.m. —Health talk.
7:30 p.m. —General Electric Turbine Department program.
8:30 p.m. —Musical program.
9:00 p.m. —Musical program [New York].
9:30 p.m. —Correct time.
9:30 p.m. —Larry Brier's Tuneful Troupe [New York].
10:00-11:00 p.m.—National Broadcasting and Concert Bureau Hour [New York].

Saturday, October 27.

WGY (Schenectady, N. Y.).

General Electric Company.

790 Kilocycles (379.5 Meters).

Channel 79.

Eastern Standard Time.

6:45-8:00 a.m. —Setting-up exercises.
8:30-9:00 a.m. —"Cheerio" talk and music.
11:15-11:30 a.m.—Radio Household Institute [New York].
11:55 a.m. —Time signals.
12:00 m. —Weather report.
12:30 p.m. —New York stock reports.
12:45 p.m. —Weather report.
2:15 p.m. —Football game—"Dartmouth-Harvard" [Cambridge, Mass.].
7:00 p.m. —Statler's Pennsylvanians, Johnny Johnson, director [New York].
7:30 p.m. —Musical program, Hotel Sagamore [Rochester, N. Y.].

8:00 p.m. —Musical program [New York].
8:30 p.m. —"The Park Bench" [New York].
9:00 p.m. —"Variety Hour" [New York].
10:00 p.m. —American Tobacco (Lucky Strike) program [New York].
11:00 p.m. —Correct time.
11:00-12:00 p.m.—Dance program [Buffalo, N. Y.].

269 Original manuscript contained as an exhibit the October 14, 1928 WGY program, but insufficient copies make necessary the substitution of the program of October 21st which is substantially the same.

270 Federal Radio Commission.

In re the Matter of Application of WGY for License Renewal.

A. J. Horn, being duly sworn, deposes and says as follows:

1. I reside at 115 Elmer Avenue, Schenectady, N. Y., and am serving as Secretary of the Schenectady Chamber of Commerce, which position I have held since August 1, 1926, having come to Schenectady from Ohio where I filled a similar position. In addition to being Secretary of the local Chamber of Commerce, I am at this time, among other official positions, President of the New York State Chamber of Commerce Secretaries, a member of the New York State Aviation Conference and Director of Schenectady Airport, Inc.

2. The Schenectady Chamber of Commerce has a membership of approximately 1050 and is representative of the retail, professional, industrial and general business life of the community. It has for six years played an important part in the civic and business affairs of Schenectady and is appealed to in any matters of community-wide interest.

3. On the afternoon of Sept. 13, 1928, I read in the Schenectady Union Star, the afternoon paper of this city, a news item carrying the information that due to a recent ruling of the Federal Radio Commission WGY would have to resort to part-time broadcasting after November 11th. Knowing that this station has been a pioneer in radio broadcast-

ing and knowing that it served a large number of people in northern and central New York, I immediately felt that this situation would be serious to the general public. I was soon besieged with calls from our members and other citizens of Schenectady asking what we were going to do about it.

4. On Sept. 14th, the following day, I sent the following telegram:

"Federal Radio Commission,
Washington, D. C.:

Have read in public press that after November eleventh WGY must be silent evenings stop. In order that we may study this matter will you please mail us exact ruling covering this situation and reasons therefor.

A. J. HORN,
Secretary Schenectady Chamber of Commerce."

No reply has yet been received to this telegram. Our office was soon besieged with telephone calls from local people and also from other cities. Many telegrams and letters were being sent to us from different localities in New
271 York, Vermont, Massachusetts, and Connecticut asking what was being done and suggesting that concerted action ought to be taken.

5. On Sept. 17th, the Board of Directors of the Schenectady Chamber of Commerce held a special meeting at which this subject was discussed informally during the meal and the Board was acquainted with the number of inquiries and protests which were being received at the Chamber offices. The following is an extract of the minutes of that meeting:

"*Minutes of a Joint Meeting of the Board of Directors of the Schenectady Chamber of Commerce and the Precampaign Committee, Held at Hotel Van Curler, Monday Noon, September 17th, 1928, at 12:15 O'clock.*

Absent: Directors Auer, Barringer, Brown, Dalton, Eveleth and McColl.

Present: President Gaffers, Vice-President Magarvey, Treasurer Allen, Directors Redmond, Starsenski, Ten Eyck

and Secretary Horn. There was also present ten members of the Pre-Campaign Committee and Mr. Wm. A. Hart, Director of the campaign.

Prior to the statement of the special purpose of the meeting, President Gaffers asked the Secretary to state what had been done in the WGY matter. Following this, on motion of Mr. Magarvey, seconded by Mr. Redmond, it was voted to have the Schenectady Chamber of Commerce voice a protest with the Federal Radio Commission and to have the President appoint a committee to formulate plans for an organized protest.

President Gaffers later appointed the following Special Radio Committee of the Chamber, (of which I automatically became Secretary ex-officio):

Special Radio Committee.

J. M. Coffey, Chairman, Asst. Manager, Mica Insulator Co.

Dr. John H. Collins, Health Officer.

Hon. Frank Crowther, Congressman.

Hon. Henry C. Fagal, Mayor.

Dr. Philip L. Frick, Pastor, First Methodist Church.

Chief Wm. H. Funston, Chief of Police.

Dudley T. Hill, Editor, Schenectady Gazette.

Clarence Johnson, Manager, Schenectady County Farm Bureau Assn.

Thomas H. Leary, Printer, and representing the American Legion.

Walter H. Main, Editorial Writer, Schenectady Union Star."

6. This committee immediately held a meeting and discussed the general situation. Sufficient protests had come in and requests for action were received from so many communities that this committee decided to hold a general meeting in Schenectady, Saturday noon, Sept. 29th. There were invited to this meeting representatives of about 100 cities, chosen more or less at random from the area which from a general knowledge of the situation we thought was being served by WGY. These representatives were asked to come here as our guests and the Schenectady Cham-

272 ber of Commerce furnished them a luncheon at noon.

Following the meeting, those who cared to do so were, at our request, allowed to visit WGY Studio and the broadcasting station at South Schenectady.

7. At this meeting a general committee of twelve was nominated by a Nominating Committee following a request from the floor that such action be taken. The following committee was selected by those present and this committee later elected its own officers:

Harry L. Ford, Chairman, Burlington, Vt.
Wm. T. Barbre, Secretary, Pittsfield, Mass.
T. J. Andrew, Utica, N. Y.
R. J. Braydon, Glens Falls, N. Y.
Westcott Burlingame, Albany, N. Y.
Mayor Cornelius F. Burns, Troy, N. Y.
J. M. Coffey, Schenectady, N. Y.
Mark H. Fish, Chestertown, N. Y.
Ernest. C. Gould, Watertown, N. Y.
Wm. F. Herman, Oneida, N. Y.
John P. G. McPhoe, Hudson, N. Y.
Chas. H. Schenck, Amsterdam, N. Y.

After this meeting the following telegram was sent to the Federal Radio Commission:

"Ira E. Robinson,
Chairman Federal Radio Commission,
Washington, D. C.:

One hundred ten representatives of thirty eight communities in meeting at Hotel Van Curler here today by unanimous vote protest the restriction of WGY broadcasting because this area is entirely dependent upon WGY for satisfactory radio service stop. Communities represented follow: Albany Schenectady Amsterdam Ballston Spa Chestertown Cobleskill Cambridge Cohoes Greenwich Glens Falls Gloverville Luzerne Little Falls Hudson Hoosick Falls Ilion Lake George Mechanicville Northville Plattsburgh Rome Saratoga Troy Schuylerville Utica Watertown Waterford Watervliet Schaghticoke Herkimer Warrensburgh Fort Edward stop. In Massachusetts: Dalton North

Adams Pittsfield stop. In Vermont: Bennington Burlington Rutland.

HARRY L. FORD,
Burlington, Vt.,
Chairman WGY Listeners' Protest Committee."

To my best knowledge no reply has yet been received by Mr. Ford to this telegram.

8. On Tuesday, Sept. 18th, the Common Council of the City of Schenectady passed the following resolution:

"Alderman Dunn offered the following:

Whereas, the ruling of the federal radio commission, unless rescinded, will restrict the operation of Schenectady's famous broadcasting station, WGY, to a very limited period each evening, commencing November 11, 1928, and will impair its usefulness: and

Whereas, WGY is recognized throughout the world as one of the most powerful, most reliable and most serviceable broadcasting stations to be found anywhere; and

Whereas, it has proved itself of inestimable worth
273 in broadcasting helpful discourses from the State Department of Health and other service agencies interested in the dissemination of valuable information; and

Whereas, the afflicted in hospitals and sanatoriums, the shut-ins, numbering hundreds of thousands have come to recognize the WGY station as to a source of comfort and pleasure to them, because of regular broadcasts of a very high quality; and

Whereas, the friends of WGY can be counted in the millions, all of whom are aggrieved to learn of the ruling of the radio commission and are eagerly awaiting a change of the order; therefore be it

Resolved, that the Common Council of the City of Schenectady, believing there is universal demand from millions of radio enthusiasts for a reconsideration of the decision of the federal radio commission and because of the belief that an irreparable injury and injustice are being unnecessarily worked upon countless residents of the eastern part of the United States, hereby emphatically protests the rul-

ing of the radio commission and in its official capacity as representing the home city of the General Electric Company's famous broadcasting station, calls upon the commission to reconsider and to rescind its action, and further

Resolved, that the Common Council of the City of Schenectady urges Representative Frank Crowther, Mayor Henry C. Fagal and Corporation Counsel Carleton H. Lewis to use their utmost efforts in behalf of this movement, the Common Council guaranteeing its moral and substantial support to any such efforts.

Adopted by the following vote (a majority of all members of the Common Council voting in the affirmative): Ayes—Aldermen Herman, Greene, Rinaldi, Kirkwood, Etkin, Cunningham, Yates, Cardwell, Broderick, Dunn, Swart, De Forest, Anker, Wright. Total–14. Nays–None.

The President declared the resolution adopted."

9. Because of the many ways in which knowledge was coming to me of the fact that the public would be seriously injured by the Federal Radio Commission's ruling regarding WGY, I issued a statement to the Daily Gazette, the morning newspaper, which appeared Saturday morning, Sept. 29th. A copy of the same is hereto attached and marked "A."

10. On Sept. 28th, I wrote to the Federal Radio Commission calling attention to the action of the Chamber of Commerce and of the Common Council, and also forwarding a petition which was voluntarily signed at the Altamont Fair by almost 600 persons representing 69 localities. A copy of this letter is attached and marked "B".

On October 5th, I again wrote the Commission that we were sending them an abundance of material and classified the material in this letter. This material originated in more than 100 cities in New York State and nearly 100 in Massachusetts, Vermont, Connecticut, New Hampshire, Rhode Island and Pennsylvania. A copy of this letter is attached and marked "C".

On October 8th, I wrote another letter to the Commission advising them that we were shipping them additional material, classifying the same. This material also

274 represented a wide area in New York State, Massa-

chusetts, Vermont, Connecticut, Maine, New Hampshire and Pennsylvania, and included among other petitions one from Glencliffe, New Hampshire, signed by 24 inmates of the New Hampshire State Sanatorium. A copy of the letter of October 8th is attached and marked "D".

11. In addition to the 14 telegrams mentioned in my letter of October 8th, we have received 64 more from cities in western Massachusetts, of which the following is a typical one:

North Adams, Mass., 5, 1928, Oct. 5 P. M., 1:36.

Chamber of Commerce,
Schenectady, N. Y.:

In form Federal Radio Commissioner for me that present hours of broadcasting station WGY should be continued withour restriction that is the only station that western Massachusetts can depend upon for program at all times.

W. H. PRITCHARD,
President North Adams National Bank.

To this date no reply has been received from the Federal Radio Commission to any of our letters, telegrams and no acknowledgment of receipt of material has been received. We did receive the mimeographed letter which we understand was sent to individuals or organizations who had entered a protest to the Commission.

12. From personal conversation with representative citizens of other communities, from the number and nature of petitions, protests and individual letters which have come in and are still being received in spite of the fact that we have never asked that such material be sent to us, I am firmly convinced that a very serious wrong would be caused by the Federal Radio Commission's ruling to the several million people who depend entirely upon WGY for constant satisfactory service. Regardless of the quality of the receiving sets used, this area can in no other way receive as good and dependable service as WGY is now giving them.

A. J. HORN.

STATE OF NEW YORK,
County of Schenectady, ss:

Subscribed and sworn to before me this 20th day of October, 1928.

HORACE W. RAYMOND,
Notary Public.

275 "A."

Statement of Sec'y A. J. Horn in Schenectady Gazette, Saturday Morning, September 29, 1928.

"While I do not wish to enter into controversy with O. H. Caldwell, the member of the Federal Radio Commission for this district, I believe that, judging from his remarks, he hopes that the General Electric Company will accept gracefully the assignment given in the best interests of radio generally.

"I feel that this remark is misdirected. If Commissioner Caldwell had had the opportunity to be in this office for the past two weeks, he would realize that it is not the General Electric Company, but the public that is refusing to accept the commission's orders gracefully. We became interested in this matter at the time the ruling was first made public. We communicated with chambers of commerce and public officials throughout this part of New York and Vermont, New Hampshire and western Massachusetts. We were amazed at the replies we received. In a great many communities resolutions of protest had already been passed by chambers of commerce, city councils, lodges, societies and other organized bodies.

People Take Offensive.

"Newspapers in a number of places were already running protest coupons. Petitions were being circulated. Newspaper editors were receiving thousands of letters from indignant readers, asking how it was possible that the only radio station that they were able to pick up satisfactorily under all conditions could be curtailed on evening programs.

"All this, you understand, was entirely spontaneous. The General Electric Company had not even made a formal statement, and our organization at that time was making only a preliminary survey to sound out sentiment. People all over this part of the country were of their own volition

taking it upon themselves to make their protests known and to persuade others to do the same thing.

"Only the other night George R. Lunn, public service commissioner, on his own initiative, spoke over WGY. He concluded his remarks by saying that anyone who desired to send a protest could address it to him at his home. This was at 6:45 o'clock. At his breakfast table at 9 o'clock the next morning there were 60 letters waiting for him. This meant that those who sent them must have immediately sat down and written a letter, sealed, stamped it and gone to the corner post box and mailed it some time before 9 o'clock at night. By morning of the second day Commissioner Lunn had enough letters to fill a bushel basket. And he was only one of the many men who were receiving such letters in this area in their private or public capacities.

"By 9:15 this morning, in addition to a flood of letters, I have received 28 telegrams from individuals in western Massachusetts, from such places as Lenox, Pittsfield, Lee, Dalton and Becket, asking us to inform the radio commission that the present hours of station WGY should in their opinion be continued without restriction, and declaring that it is the only station that western Massachusetts can depend upon for programs at all times.

"No, it is not a question of whether or not the General Electric Company shall accept the commission's ruling with good grace," Secretary Horn concluded. "It is now a question of whether or not the million or more radio listeners in this part of the country shall have evening programs from WGY or no programs at all. New York City has a choice of a number of stations. This area is able to receive just one satisfactorily—and now it is proposed to curtail that. Small wonder it is being accepted with poor grace—by the public."

276 October 5, 1928.

Federal Radio Commission,
Ira E. Robinson, Chairman,
Washington, D. C.

GENTLEMEN:

We are sending you considerable material which has been sent to us protesting any curtailment of the broadcasting activities of WGY. The material is as follows:

Petition signed by the pupils and teachers of Sharon Springs High School, Sharon, New York, with a total of 77 signatures.

Petition signed by the citizens of Whitehall, New York, with a total of 83 signatures.

Petition signed by the citizens of Enosbury Falls, Vermont, with a total of 32 signatures.

Protests by the Troy Automobile Club of 1000 members, The Albany Radio Trades Association, Inc., The Radio Shop, Albany, New York, the Albany Distributing Corporation, and the Esco Electric Supply Company of Albany, New York.

Newspaper protest coupons from the Schenectady Union Star totaling 531 from 40 cities and villages as follows:

Altamont, N. Y.
Amsterdam, N. Y.
Alplaus, N. Y.
Ballston Spa, N. Y.
Ballston Lake, N. Y.
Burnt Hills, N. Y.
Coboes, N. Y.
Cooperstown, N. Y.
Carbondale, Pa.
Central Bridge, N. Y.
Cherry Valley, N. Y.
Charlotteville, N. Y.
Duanesburg, N. Y.
Delanson, N. Y.
Esperance, N. Y.
Glens Falls, N. Y.
Golway, N. Y.
Gloversville, N. Y.
Hegeman, N. Y.
Johnstown, N. Y.
Jefferson, N. Y.
Jonesville, N. Y.
Madisonville, N. Y.
Eiskayuna, N. Y.
Pattersonville, N. Y.
Palmer, N. Y.
Quaker Street, N. Y.
Rotterdam Junction, N. Y.
Rensselaer, N. Y.
Rexford, N. Y.
Schenectady, N. Y.
Scotia, N. Y.
Saratoga Springs, N. Y.
Seward, N. J.
Sloansville, N. Y.
Utica, N. Y.
Worcester, Mass.
Watertown, N. Y.
West Albany, N. Y.

277

September 28, 1928.

Mr. Ira E. Robinson,
Chairman Federal Radio Commission,
Washington, D. C.

DEAR MR. ROBINSON:

The Board of Directors of the Schenectady Chamber of Commerce and the City Council of Schenectady have,

by resolution, protested the action of your Commission in restricting the broadcasting of WGY. We feel that this pioneer station, which is the only one in this area in which nearly 2,000,000 people are dependent for radio instruction and entertainment, should be allowed the same privileges which it has heretofore enjoyed.

While this office has not been named as a receiving point for protests, we are in receipt of many telegrams, thousands of protest coupons forwarded to us by newspapers, individual letters, petitions, etc. We believe you will be particularly interested in petitions which we are forwarding you, which were signed the last day of the County Fair at Altamont. These petitions were placed on a table by the Schenectady County Farm Bureau Association with only a placard labeled "WGY Protest Petitions Here." In the period from 1:30 to 5:30 P. M., 581 names were signed, representing 69 separate localities. There was no one in attendance at the table where the petitions were placed and all signatures were entirely voluntary.

We are shortly forwarding you letters, other petitions and protest coupons with an analysis thereof.

Sincerely yours,

A. J. HORN,
Secretary.

278 Newspaper protest coupons from the "Hudson Daily Star," totaling 254, from the following 40 cities and villages:

Amsterdam, N. Y.
Athens, N. Y.
Chatham, N. Y.
Crangsville, N. Y.
Columbiaville, N. Y.
Clermont, N. Y.
Claverick, N. Y.
Copeke Falls, N. Y.
Catskill, N. Y.
Klinville, N. Y.
East Chatham, N. Y.
Fort Johnson, N. Y.
Fort Edward, N. Y.
Ghent, N. Y.
Kinderhook, N. Y.
Middlebury, Vt.
Millerton, N. Y.
Mellenville, N. Y.
Madalin, N. Y.
Martindale, N. Y.
No. Germantown, N. Y.
Philemont, N. Y.
Pine Plains, N. Y.
Red Hook, N. Y.
Schenectady, N. Y.
Schuylerville, N. Y.
Saratoga Springs, N. Y.
Shaftsbury, Vt.

Geletinville, N. Y.
Germantown, N. Y.
Hudson, N. Y.
Hillsdale, N. Y.
Hollowdale, N. Y.
Johnstown, N. Y.
Silvernails, N. Y.
Stottsville, N. Y.
Stuyvesant Falls, N. Y.
Utica, N. Y.
Tivoli, N. Y.
Valatie, N. Y.

Newspaper protest coupons from the "Saratogian," Saratoga Springs, New York, totaling 923, from the following 45 cities and villages:

Amsterdam, N. Y.
Albany, N. Y.
Averill Park, N. Y.
Ballston Spa, N. Y.
Broadalbin, N. Y.
Bleeker, N. Y.
Burnt Hills, N. Y.
Batchellerville, N. Y.
Bemis Height, N. Y.
Bellows Falls, Vt.
Bacon Hill, N. Y.
Ballston Lake, N. Y.
Charlton, N. Y.
Corinth, N. Y.
Clifton Park, N. Y.
Elnora, N. Y.
East Galway, N. Y.
Gloversville, N. Y.
Greenwich, N. Y.
Galway, N. Y.
Greenfield Centre, N. Y.
Gansevoort, N. Y.
Hudson Falls, N. Y.
Hadley, N. Y.
Johnstown, N. Y.
Kingston, N. Y.
Little Falls, N. Y.
Luzerne, N. Y.
Mayfield, N. Y.
Mechanicsville, N. Y.
Mt. McGragor, N. Y.
Middle Grove, N. Y.
Northville, N. Y.
New Hartford, N. Y.
Palmer, N. Y.
Porter Corners, N. Y.
Rock City Falls, N. Y.
Round Lake, N. Y.
Schuylerville, N. Y.
Stillwater, N. Y.
Saratoga Springs, N. Y.
Thomson, N. Y.
Victory Mills, N. Y.
Waterford, N. Y.
Wayville, N. Y.
Walton, N. Y.

Newspaper protest coupons from the Gloversville, New York, "Leader-Republican" totaling 95.

279 Printed individual protests, totaling 965, from 68 New York cities and villages as follows:

Afton, N. Y.
Amsable Fork, N. Y.
Albany, N. Y.
Arlington, N. Y.
Mexico, N. Y.
Maldan, N. Y.
Hartville, N. Y.
New York, N. Y.

Asbokan, N. Y.
Atwood, N. Y.
Aroma, N. Y.
Brookfield, N. Y.
Ballston Spa, N. Y.
Binghamton, N. Y.
Berlin, N. Y.
Bainbridge, N. Y.
Buffalo, N. Y.
Barton, N. Y.
Brodheads, N. Y.
Clinton, N. Y.
Cadyville, N. Y.
Davenport, N. Y.
Dennesmore, N. Y.
Dolgeville, N. Y.
Delhi, N. Y.
Earlville, N. Y.
Fort Edward, N. Y.
Fulton, N. Y.
Gabriels, N. Y.
Glen's Falls, N. Y.
Gouverneur, N. Y.
Glasco, N. Y.
Geneva, N. Y.
Greenwich, N. Y.
Harkness, N. Y.
Johnstown, N. Y.
Johnsburg, N. Y.
Kingston, N. Y.
Little Falls, N. Y.
Norwich, N. Y.
Olive Bridge, N. Y.
Oneida, N. Y.
Old Forge, N. Y.
Owego, N. Y.
Penn Tan, N. Y.
Phœnix, N. Y.
Poughkeepsie, N. Y.
Port Henry, N. Y.
Pine Plains, N. Y.
Peru, N. Y.
Riparius, N. Y.
Rochville, N. Y.
Rome, N. Y.
Syracuse, N. Y.
Saugerties, N. Y.
Sharon Springs, N. Y.
Saranac Lake, N. Y.
Schenectady, N. Y.
Towanda, N. Y.
Troy, N. Y.
Utica, N. Y.
Unadilla, N. Y.
Verona, N. Y.
Waverly, N. Y.
Watkins Glen, N. Y.
West Sharon, N. Y.
Wallkill, N. Y.
West Hurley, N. Y.
Watertown, N. Y.

Printed individual protests, totaling 413, from 59 cities outside of New York State, as follows:

West Stockbridge, Mass.
Greenfield, Mass.
Somerville, Mass.
Cambridge, Mass.
Arlington, Mass.
Turner's Falls, Mass.
New Salem, Mass.
Sheffield, Mass.
Leoainetor, Mass.
Hyderville, Vt.
Springfield, Vt.
Ryderville, Vt.
Burlington, Vt.
Avon, Con.
Waterville, Con.
Torrington, Con.
Waterbury, Con.
Norfolk, Con.

Athol, Mass.
Orange, Mass.
Housatonic, Mass.
Great Barrington, Mass.
Springfield, Mass.
West Springfield, Mass.
Winthrop, Mass.
Newton Centre, Mass.
Pittsfield, Mass.
Co. Vernon, Mass.
North Adams, Mass.
Adams, Mass.
Johnson, Vt.
Middlebury, Vt.
Vergennes, Vt.
East Middle Burg, Vt.
Goshen, Vt.
Proctor, Vt.
Waterbury, Vt.
Castleton, Vt.
Waterville, Vt.
Asculney, Vt.
Cambridge, Vt.
Caxtens River, Vt.
Saymour, Con.
Falls Village, Con.
Putman, Con.
Plymouth, N. H.
West Springfield, N. H.
Nachua, N. H.
Woodsville, N. H.
Minsdale, N. H.
Nudson, N. H.
Petersburo, N. H.
Hancock, N. H.
Stewport, N. H.
Koone, N. Y.
Winchester, N. H.
Earlborn, N. H.
Pipton, N. H.
Mill Village, N. H.
Rochester, N. H.
Concord, N. H.
Bristol, N. H.
Sayne, Pa.
Waterville, Vt.
Winsted, Con.

280 48 individual letters from 15 New York cities, as follows:

Gouverneur, N. Y.
Glen's Falls, N. Y.
Plattsburg, N. Y.
Fulton, N. Y.
Oneida, N. Y.
Oakes, N. Y.
Germanton, N. Y.
Pine Hill, N. Y.
Schenectady, N. Y.
Amsterdam, N. Y.
Mechanicsville, N. Y.
Poughkeepsie, N. Y.
Carthage, N. Y.
Albany, N. Y.
Saugerties, N. Y.
Redmondville, N. Y.

37 individual letters from 15 cities outside of New York State, as follows:

South Stratford, Vt.
Randolph, Vt.
Burlington, Vt.
Morrisville, Vt.
Pittsfield, Mass.
Stockbridge, Mass.
Lee, Mass.
Claremont, N. H.

Montpelier, Vt.
North Adams, Mass.
Housatonic, Mass.
Washington, Mass.
Pittston, Pa.
Balleforts, Pa.
Providence, R. I.

We are also sending additional protest letters. We do not feel that the situation has been satisfactorily cleared up, and the general public has demonstrated in the number and nature of the protests coming with every mail, sincere hopes that you will modify your order.

Sincerely yours,

A. J. HORN,
Secretary.

281 October 8, 1928.

Federal Radio Commission,
Ira E. Robinson, Chairman,
Washington, D. C.

GENTLEMEN:

We are sending you petitions as follows:

Little Falls, New York with 72 signatures.

Montpelier, Vermont, with 23 signatures.

Glencliff, N. H., signed by 24 inmates of the N. H. State Sanatorium.

Montpelier, Vt., with 25 signatures.

Lisbon, N. H., with 5 signatures.

Waterbury, Con., with 26 signatures.

Gloversville, N. Y., with 15 signatures.

Brasie Corners, N. Y., with 17 signatures.

Hudson Falls, N. Y., with 227 signatures.

Individual letters from Saratoga Springs, N. Y., Fultonville, N. Y., Swantey, Vermont, Gardner, Mass. Adams, Mass.

We are in receipt of 14 individually signed telegrams from North Adams, Mass. and Pittsfield, Mass., asking us to advise you that WGY is the only station upon which Northern Mass. can satisfactorily depend for regular services, and requesting that present rights of broadcasting of WGY be continued.

Signed individual protests to the number of 506, representing 69 New York State cities, as follows:

Arkport, N. Y.
Arverne, N. Y.
Amsterdam, N. Y.
Albany, N. Y.
Baldwinsville, N. Y.
Binghamton, N. Y.
Brooklyn, N. Y.
Brownville, N. Y.
Broadelbin, N. Y.
Bleiker, N. Y.
Cambridge, N. Y.
Cobleskill, N. Y.
Central Bridge, N. Y.
Endwell, N. Y.
Faltonville, N. Y.
Franklin, N. Y.
Frankfort, N. Y.
Gabriels, N. Y.
Greene, N. Y.
Gloverville, N. Y.
282 Cowden, N. Y.
Cortland, N. Y.
Cincinnatis, N. Y.
Carthage, N. Y.
Deposit, N. Y.
Elko Park, N. Y.
Earlville, N. Y.
Endicott, N. Y.
Walton, N. Y.
Waverly, N. Y.
Lake Katrine, N. Y.
Mooers, N. Y.
Moody, N. Y.
Mechanicsville, N. Y.
Dolgeville, N. Y.
Hobart, N. Y.
Hunter, N. Y.
Johnson City, N. Y.
Kingston, N. Y.
Lexington, N. Y.
Little Falls, N. Y.
Northville, N. Y.
New Hartford, N. Y.
Oneonta, N. Y.
Oxford, N. Y.
Plattsburg, N. Y.
Prattsville, N. Y.
Poland, N. Y.
Poughkeepsie, N. Y.
Rome, N. Y.
Rensselaer, N. Y.
Saugerties, N. Y.
Sherburne, N. Y.
Syracuse, N. Y.
Hayfield, N. Y.
New Berlin, N. Y.
Norwich, N. Y.
Windhams, N. Y.
Willet, N. Y.
Smithville Flats, N. Y.
Schenectady, N. Y.
Tupper Lake, N. Y.
Utica, N. Y.
Union, N. Y.
Unadilla, N. Y.
Vernon Center, N. Y.
Watertown, N. Y.
West Kill, N. Y.
Whitesboro, N. Y.

Signed individual protests to the number of 370, representing 53 cities outside of New York State, as follows:

Adams, Mass.	Burlington, Vt.
Dalton, Mass.	Morrisville, Vt.
Stockbridge, Mass.	Montpelier, Vt.
Springfield, Mass.	Vergennes, Vt.
South Lee, Mass.	Northfield, Vt.
Leo, Mass.	Wilder, Vt.
Lenox Dale, Mass.	Beebe River, N. H.
North Adams, Mass.	Cannon, N. H.
Housatonic, Mass.	Claremont, N. H.
Washington, Mass.	Concord, N. H.
Pittsfield, Mass.	East Ware, N. H.
Berlin, Vt.	Guild, N. H.
Concord, Vt.	Newbury, N. H.
East Concord, Vt.	Whitefield, N. H.
Gilwan, Vt.	Petersboro, N. H.
Fairfield, Vt.	West Lebanon, N. H.
Tunbridge, Vt.	North Newport, N. H.
White River, Vt.	Grantham, N. H.
Sheldon, Vt.	Waterbury, Con.
So. Lunonburg, Vt.	Eastport, Maine.
Windsor, Vt.	Belle Barte, Pa.
South Stratford, Vt.	Susquehanna, Pa.
Swanton, Vt.	Sayre, Pa.
Randolph, Vt.	Pittston, Pa.

We wish again to impress you with the fact that all this material has been sent to us voluntarily and is very indicative of the inconveniences which the proposed ruling will cause to radio listeners of a very wide area.

Sincerely hoping that this material and other information previously sent you will show you the inconvenience which your proposed ruling will cause and help you to a modification of your order.

Respectfully yours,

A. J. HORN,
Secretary.

283 Federal Radio Commission.

In the Matter of Applicatioon of WGY for Renewal of License.

Martin P. Rice, being duly sworn, deposes and says as follows:

1. I am Manager of Broadcasting for the General Electric Company, and have been so since the inception of its broadcasting stations.

Length of Service.

2. WGY's first broadcast license was issued by the Department of Commerce on February 4, 1922, and its first program was broadcast on February 20th of the same year. It has been on the air regularly ever since that time. There are only nine other stations having as long a service record as WGY.

Investment and Cost of Operation.

3. The original investment in Station WGY and the expenditures made for replacements in order to keep the equipment up to the very latest developments, together with the operating expense, amount to well over a million and a half dollars. No expense has been spared in providing the best apparatus, equipment and instruments so that the quality might be superior and the frequency absolutely constant. The cost for program material and talent necessities a large annual expense.

Developmental Work.

4. WGY is unquestionably the most important developmental station in the world. Through its assistance apparatus and devices have been developed which are now adopted by the leading broadcasting stations everywhere. The station was designated several years ago as a standard for maintaining frequency. Our technical force cooperated with the Department of Commerce in a long series of experiments to determine the effect of increased power, and

we demonstrated by actual tests that increased station power improves broadcast signals, extends the range of the station, and does not increase interference. Our work on short wave transmission has greatly extended the useful application of this system and available knowledge concerning it. We have recently broadcast a series of television programs so that experimenters may assist in the development of this field and so that public might become somewhat acquainted with its possibilities. The de-
284 velopmental work carried on in connection with WGY has contributed immeasurably to the progress of broadcasting.

Area Covered—Population Served.

5. The strictly technical coverage of WGY lies within an area described by a sixty mile radius and includes a population of about one million. Within 100 miles of the Station there is a population of approximately three million. Because of fading and static no other station covers this area so reliably as WGY. We have numerous letters from persons throughout this area indicating that WGY is the most dependable station. The area referred to includes portions of New York, Massachusetts, Vermont and New Hampshire, but many of our regular listeners are located at far greater distances. For example, we regularly reach certain portions of Connecticut, New Jersey, Pennsylvania, Ohio, and southern Canada.

With our short wave stations WGY's programs are carried with considerable regularity to Porto Rico, Alaska, Canal Zone, Mexico, South America, British Isles, Australia, and South Africa. Our programs are frequently published in the magazines and newspapers of these countries. The accompanying map shows the distant range of reception of WGY.

Programs.

6. Programs of WGY are designed to contribute something to everyone in every walk of life. They include the best in music, drama, entertainment, education, statesmanship, health, agriculture, religion, science, news and sports. The facilities of WGY have always been available for the

presentation of matters of public interest and importance. The State departments at Albany have frequently made use of our services. WGY broadcast the first radio play and the first radio television drama. Through connection with the National Broadcasting Company we have given the public throughout our service area programs originating in New York, which, without our station, would not be generally available in this area. We have cooperated with the State Departments of Health, Agriculture, Education, and with the police in emergencies. No reasonable request for broadcasting facilities which would contribute to the public good has been refused. A few representative programs are attached.

Hours on the Air.

7. WGY is regularly on the air from before 7:00 in the morning with certain intermissions until midnight or after. The accompanying chart shows a typical week of broadcasting, and indicates the various types of program. There are also additional periods not shown on the chart, such as special programs, news announcements, and emergency service.

285 The Effect of Reallocation.

8. The order of the Federal Radio Commission effective November 11th deprives WGY of the wavelength on which it has broadcast for the past five and one-half years, and transfers that wavelength to Zone 5 (Pacific Coast). It makes WGY a part-time station, operating on the same wavelength but subservient to the Pacific Coast. The regulations prohibit the operation of WGY after sunset on the Pacific Coast which corresponds to about 8:00 p. m. Eastern Time. All the program time after 8:00 p. m., as shown on the chart, must be cancelled. While we have many listeners to our morning and early evening program, the real radio audience, as is well known, is reached between 7:00 p. m. and midnight. The really effective usefulness of WGY is therefore destroyed by the Commission's order. The large investment and the operating expense would go on but our ability to serve the public with a station thus crippled would be tremendously reduced. No one would be

warranted in building a station of this size for such a limited period of evening broadcasting. The programs that we should have to delete are the most popular ones and the majority our listening audience would have no substitute. The order strikes at the vitals of our developmental work, because we need the reactions of the evening audience to test the value of new systems and apparatus.

Public Opinion.

9. The action of the Commission with regard to WGY is incomprehensible to the public. They cannot believe that a nominal attempt to equalize radio facilities should result in depriving three million people of the services of the station to which they are accustomed to listen. Protests by the thousands have been sent to us, to various newspapers, to the Radio Commission, and to Senators and Representatives in Congress. We have had appeals from the aged and infirm, from hospitals, from schools, and from homes. The Schenectady Chamber of Commerce has received more than 6000 protests. Local newspapers have received more than 15,000 protests. The people in New York and in adjoining States have shown more interest in this matter than in any that has come to their attention for many years. The Commission has attempted to avoid the criticism by shifting the burden to us, but the Commission has not satisfactorily explained why three million people should be deprived of their only dependable broadcast service.

MARTIN P. RICE.

286 STATE OF NEW YORK,
County of Schenectady, ss:

Subscribed and sworn to before me this 22nd day of October, 1928.

ARTHUR K. WILLEY,
Notary Public.

287 I, Harry L. Ford, Executive Secretary of the Burlington Chamber of Commerce of the City of Burlington, hereby certify, That I have received letters from over two hundred individuals from towns in the State of Vermont, during the past two months, who are dependent on WGY for radio service, and petitions have been received signed by hundreds of individuals, resolutions

from the City Council of Burlington, Vermont, the City Council of Winooski, Vermont; Chambers of Commerce in Vermont, Women's Clubs of Burlington, Police Department of Burlington and Service Clubs of Burlington; all of which desire to have WGY Radio Station of Schenectady, N. Y., maintain its full time service as it is the only dependable station which serves the thousands of radio listeners in Vermont.

(Signed) HARRY L. FORD,

G. R. WHITE,
Notary Public.

Duly subscribed to and sworn to, before me at Burlington, Vermont, on this nineteenth day of October, A. D. 1928.

288 Department of Commerce, Radio Division.
Office of Supervisor of Radio, Sub-Treasury Building, New York, N. Y.

Official business.

Mr. Martin P. Rice,
Manager of Radio Broadcasting,
General Electric Company,
Schenectady, N. Y.

Department of Commerce, Radio Division.

Office of Supervisor of Radio, U. S. Subtreasury Building, New York, N. Y.

October 27, 1928.

Mr. Martin P. Rice,
Manager of Radio Broadcasting,
General Electric Company,
Schenectady, N. Y.

SIR:

There is enclosed herewith Federal Radio Commission radio broadcasting station license No. 264, covering your WGY station, for the term beginning November 11th, 1928 and ending January 31, 1929. Kindly acknowledge receipt.

Respectfully

ARTHUR BATCHELLER,
U. S. Supervisor of Radio.

J. L.

Encl.

289 Copy.

General Electric Company, 120 Broadway, New York.

J. W. Lewis, Assistant to the President.

November 3, 1928.

Federal Radio Commission,
Washington, D. C.

DEAR SIRS:

We are handing you herewith application for modification of the WGY station license issued October 17, 1928, prepared in accordance with forms furnished by the Federal Radio Commission, together with affidavit referred to and forming a part of our answer to Question 4 of the application.

We respectfully request a hearing on this application, on either this coming Wednesday or Thursday, November 7th or 8th, 1928.

Yours very truly,
GENERAL ELECTRIC COMPANY,
By J. W. LEWIS,
Assistant Secretary.

290 Form No. 13.

Station License File No. —.

(To be filled in by the Federal Radio Commission:) Call Letters: —. Frequency: —. Power: —. Official Number: —.

United States of America, Federal Radio Commission.

Application for Modification of Station License.

(Submit in duplicate to District Supervisor of Radio in charge of district in which station is located. Swear to one copy.)

To the Federal Radio Commission:

1. Name of applicant: General Electric Company.

2. Post office address: State, New York; City, Schenectady; Street, River Road; Number, One.
3. Nature of Modification:

Terms of License dated Oct. 17, 1928.

	Modification Requested.
A. Frequency: 790 Kcs.	A. Frequency: 790 Kcs. or any frequency substantially equivalent to enable continuance of WGY's public service.
B. Power: 25,000 (50,000 exper'l Watts.	B. Power[1]: Same.
C. Hours of operation: "Limited."	C. Hours of operation: Full-time.
D. Location of transmitter: So. Schenectady.	D. Location of transmitter: So. Schenectady.
E. Location of main studio: International General Electric Building, Schenectady.	E. Location of main studio: International General Electric Building, Schenectady.
F. Call letters: WGY.	F. Call letters[2]: WGY.
G. —	G. —

[1]If construction of a new transmitter is contemplated, application for construction permit must be filed.
[2]Call letters are designated by the Secretary of Commerce. Any request for change will be submitted to him by the Commission.

291 4. How will the granting of the application serve public interest, convenience, or necessity? The reason why the granting of this application will serve public interest, convenience and necessity are set forth in the prior applications of this applicant, dated January —, 1928, October 4, 1928, and October 23, 1928, respectfully, to which reference is respectfully made, together with the affidavit of Kolin Hager, dated October 27, 1928, submitted herewith, are requested to be made a part of this application.

5. The applicant's last application for a station license is to be considered as part of this application, and the truth of the statements therein contained is hereby reaffirmed

except in so far as the contrary expressly appears in this application.

6. The applicant waives any claim to the use of any particular frequency or wave length or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests a station license in accordance with this application.

Dated this 3rd day of November, 1928.

____ ____,
Applicant.

STATE OF NEW YORK,
County of New York, ss:

J. W. Lewis, being first duly sworn, upon his oath deposes and says that he is the (If applicant is not an individual, insert "agent of") agent of above-named applicant and that the statements in the foregoing application are true of his own knowledge, except as to such statements as are therein stated to be on information and belief, and as to such statements applicant believes them to be true.

____ ____.

Subscribed and sworn to before me this 3rd day of November, 1928.

____ ____,
Notary Public.

292 STATE OF NEW YORK,
County of Schenectady, ss:

Kolin Hager, being duly sworn, deposes and says as follows:

1. In the capacity of studio manager of the General Electric Radio Broadcasting Station, WGY, at Schenectady, I have been responsible for the program schedule since the beginning of the station's activities on the air (February 20, 1922).

2. From that date, February 20, 1922, to the present time, a daily log has been kept by the station, indicating every broadcast that has been transmitted by WGY.

3. The following is a true and correct transcript of entries on said log from August 1, 1928 to the present day: after 10:00 P. M.

Wednesday, August 1:

10:00-10:30 DST	Palmolive Hour, New York, (musical)	Commercial
10:30	Howard Time, N. Y. (announcement)	Commercial
10:30-11:30 DST	National Light Opera Co., N. Y. (musical)	Sustaining
11:31	Kozak Radiogram (announcement)	Commercial

Thursday, August 2:

10:00	Halsey Stuart & Co., N. Y. (musical)	Commercial
10:30	Howard Time, N. Y. (announcement)	Commercial
10:30	New York Dance music	Sustaining
11:30	Kozak Radiogram (announcement)	Commercial

Friday, August 3:

10:00	Howard Time, N. Y. (announcement)	Commercial
10:00-11:00	National Concert Bureau, N. Y. (musical)	Sustaining
11:00	Kozak Radiogram (announcement)	Commercial
11:00-12:00	Henry Busse Orchestra, Saratoga (dance)	Sustaining

Saturday, August 4:

10:00	Philharmonic orchestra, N. Y.	Sustaining
11:00-12:00	Park Central Orchestra, N. Y.	Sustaining

Sunday August 5:

10:00	Biblical Drama, New York	Sustaining
10:15-10:30	Television Transmission, Schenectady	Sustaining

Monday, August 6:

10:00	Howard Time (announcement) N. Y.	Commercial
10:30-11:30	Henry Busse orchestra, Saratoga	Sustaining
11:30	Kozak Radiogram (announcement)	Commercial
11:30-12	Dance Orchestra, Rochester	Sustaining

293 Tuesday, August 7:

10:00-10:30	Clicquot Club Eskimos, N. Y.	Commercial
10:30	Howard Time	Commercial
10:30-11:30	Palais D'Or, Dance	Sustaining
11:30	Kozak Announcement	Commercial

Wednesday, August 8.

10:00-10:30	Palmolive Hour, N. Y. (musical)	Commercial
10:30	Howard Time (Announcement)	Commercial
10:30-11:30	National Light Opera Co. (musical)	Sustaining
11:30	Kozak Announcement	Commercial

Thursday, August 9:

10:00-10:30	Halsey Stuart (investment) N. Y.	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:00	Dance Music, Buffalo, N. Y.	Sustaining
11:00-11:30	Dance Music, New York	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial

Friday, August 10:

10:00	Howard Time, N. Y. (Announcement)	Commercial
10:00-11:00	National Broadcasting and Concert Bureau Hour, N. Y. (Musical)	Sustaining
11:00	Kozak Radiogram (Announcement)	Commercial
11:00-12:00	Dance Music, Saratoga Lake, N. Y.	Sustaining

Saturday, August 11:

10:00-10:10	Philharmonic Orchestra, N. Y.	Sustaining
10:00 11:00	Dance Music, New York	Sustaining
11:00-12:00	Dance Music, Albany, N. Y.	Sustaining

Sunday, August 12:

10:00-10:15	Biblical Drama, N. Y.	Sustaining
10:15-10:30	Television Transmission	

Monday, August 13:

10:00	Howard Time, N. Y. (Announcement)	Commercial
10:00-10:30	Cabin Door, N. Y. (Musical)	Sustaining
10:30	Kozak Radiogram (Announcement)	Commercial
10:30-11:30	Dance Music, Saratoga Lake, N. Y.	Sustaining
11:30-12:00	Dance Music, Rochester, N. Y.	Sustaining

Tuesday, August 14:

10:00-10:30	Clicquot Club Eskimos, N. Y. (Musical)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:30	Palais D'Or Orchestra, N. Y.	Sustaining
11:30	Kozak Radiogram (Announcement	Commercial
11:30-12:00	Television Transmission	

294 Wednesday, August 15:

10:00-10:30	Palmolive Hour, N. Y. (Musical)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:30	National Light Opera Co., N. Y. (Musical)	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial

Thursday, August 16:

10:00-10:30	Halsey Stuart & Co. Prog, N. Y (Musical)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:30	Dance Music, N. Y.	Sustaining
11:30	Kozak Radiogram, (Announcement)	Commercial
11:30-12:20	Organ Recital, Albany, N. Y.	Sustaining

Friday, August 17:

10:00	Howard Time, N. Y. (Announcement)	Commercial
10:00-11:00	National Broadcasting and Concert Bureau Hour, N. Y. (Musical)	Sustaining
11:00	Kozak Radiogram (Announcement)	Commercial
11:00-12:00	Dance Music, Saratoga Lake, N. Y.	Sustaining

Saturday, August 18:

10:00-10:18	Philharmonic Orch., N. Y.	Sustaining
10:18-10:30	Piano Recital—Studio	Sustaining
10:30-11:00	Dance Music—New York	Sustaining
11:00-12:00	Dance Music—Albany, N. Y.	Sustaining

Sunday, August 19:

10:00-10:15	Biblical Drama, N. Y.	Sustaining
10:15-10:30	Television Transmission	

Monday, August 20:

10:00	Howard Time, N. Y. (Announcement)	Commercial
10:00-10:30	Cabin Door, N. Y. (Musical)	Sustaining
10:30	Kozak Radiogram (Announcement)	Commercial
10:30-11:30	Dance Music—Saratoga Lake, N. Y.	Sustaining
11:30-12:00	Dance Music—New York	Sustaining

Tuesday, August 21:

10:00-10:30	Clicquot Club Eskimos, N. Y. (Music)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:30	Palais D'Orch, N. Y.	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial
11:30-12:00	Television Transmission	

295 Wednesday, August 22:

10:00-10:30	Palmolive Hour, N. Y. (Musical)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:30	National Light Opera Co., N. Y. (Musical)	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial

Thursday, August 23:

10:00-10:30	Halsey Stuart & Co. Prog. (Musical) (New York)	Commercial
10:30-11:30	Dance Music—New York	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial
11:30-12:26	Organ Recital—Albany, N. Y.	Sustaining

Friday, August 24:

10:00	Howard Time, N. Y. (Announcement)	Commercial
10:00-11:00	National Broadcasting and Concert Bureau Hour, N. Y. (Musical)	Sustaining
11:00	Kozak Radiogram (Announcement)	Commercial
11:00-12:00	Dance Music—Saratoga Lake, N. Y.	Sustaining

Saturday, August 25:

10:00-10:22	Philharmonic Orch., N. Y.	Sustaining
10:22-11:00	Dance Music, N. Y.	Sustaining
11:00-12:00	Dance Music, N. Y.	Sustaining

Sunday, August 26:

10:00-10:15	Biblical Drama, N. Y.	Sustaining
10:15-10:30	Television Transmission	

Monday, August 27:

10:00	Howard Time, N. Y. (Announcement)	Commercial
10:00-10:30	Cabin Door, N. Y. (Musical)	Sustaining
10:30	Kozak Radiogram (Announcement)	Commercial
10:30-11:30	Dance Music—Saratoga Lake, N. Y.	Sustaining
11:30-11:35	Dance Music—Rochester, N. Y.	Sustaining
11:35-12:00	Dance Music—New York	Sustaining

Tuesday, August 28:

10:00-10:30	Clicquot Club Eskimos, N. Y. (Music)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:30	Palais D'Or Orch., N. Y.	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial
11:30-11:33	Missing Person Announcement	Sustaining
11:33-12:00	Television Transmission	

296 Wednesday, August 29:

10:00-10:30	Palmolive Hour, N. Y. (Musical)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:30	National Light Opera Co., N. Y. (Musical	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial

Thursday, August 30:

10:00-10:30	Halsey Stuart & Co. Prog. (N. Y.) (Musical)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:30	Dance Music, N. Y.	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial
11:30-12:00	Organ Recital—Albany, N. Y.	Sustaining

Friday, August 31:

10:00	Howard Time, N. Y. (Announcement)	Commercial
10:00-11:00	National Broadcasting and Concert Bureau Hour, N. Y. (Music)	Sustaining
11:00	Kozak Radiogram (Announcement)	Commercial
11:00-12:00	Dance Music—Saratoga Lake, N. Y.	Sustaining

Record of Broadcasts from WGY After 10 *P. M.—September*, 1928.

10:00 P. M.—D. S. T.—Peter Van Steeden's Orchestra, N. Y. Sustaining

11:00-12:00	Dance Program, DeWitt Clinton Hotel, Albany, N. Y. (Musical)	Sustaining

Sunday, September 2:

10:00-10:15	Biblical Drama, New York	Sustaining
10:15-10:30	Television Transmission	

Monday, September 3:

10:00	Howard Time, New York (Announcement)	Commercial
10:00	Cabin Door, New York (Music and Dialogue)	Sustaining
10:30	"El Tango Romantico," New York (Music)	Sustaining
11:00	Kozak Radiogram (Announcement)	Commercial
11:00-12:00	Park Central Skylarks (Musical), N. Y.	Sustaining

Tuesday, September 4:

10:00	Clicquot Club Eskimos, N. Y. (Musical)	Commercial
10:30	Howard Time, New York (Announcement)	Commercial
10:30-11:30	Palais D'Or Orchestra, New York	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial
11:30-12:00	Television Transmission	

Wednesday, September 5:

10:00-10:30	Palmolive Hour, New York (Musical)	Commercial
10:30	Howard Time, New York (Announcement)	Commercial
10:30	Kozak Radiogram (Announcement)	Commercial
10:30-11:30	National Light Opera Co. (Musical), N. Y.	Sustaining

Thursday, September 6:

10:00	Halsey Stuart and Co. Program, New York (Musical)	Commercial
10:30	Howard Time, New York (Announcement)	Commercial
10:30	Rice String Quartet (Musical)	Sustaining
11:00	New York Dance Music	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial
11:30-12:30	Organ Recital—Walter, Albany, N. Y.	Sustaining

Friday, September 7:

10:00	Howard Time, New York (Announcement)	Commercial
10:00-11:00	National Broadcasting and Concert Bureau Hour, N. Y. (Musical)	Sustaining
11:00	Kozak Radiogram (Announcement)	Commercial

298 Saturday, September 8:

10:00	Hal Kemp's Hotel Manger Orch., N. Y.	Sustaining
11:00-12:00	Dance Music—Ten Eyck Hotel, Albany, N. Y.	Sustaining

Sunday, September 9:

10:00-10:15	Biblical Drama, New York	Sustaining
10:15-10:30	Television Transmission	

Monday, September 10:

10:00	Kozak Radiogram (Announcement)	Commercial
10:00-12:00	Attorney General Ottinger Program, New York	Commercial

Tuesday, September 11:

10:00	Clicquot Club Eskimos, N. Y. (Music)	Commercial
10:30	Howard Time (Announcement) N. Y.	Commercial
10:30-11:30	Palais D'Or Orchestra, N. Y.	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial
11:30-12:30	Special television transmission (Play)	

Wednesday, September 12:

10:00-10:30	Palmolive Hour, N. Y. (Musical)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:30	National Light Opera Co. N. Y. (Musical)	Sustaining
10:30	Kozak Radiogram (Announcement)	Commercial

Thursday, September 13:

10:00	Halsey Stuart and Co. Pro. (N. Y. (Musical)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30	Musical Program, Studio	Sustaining
11:00	Dance Music, N. Y.	Sustaining
11:30	Kozak Radiogram (Announcement)	Commercial
11:30-12:00	Park Central Skylarks (Musical) N. Y.	Sustaining

Friday, September 14:

10:00-11:00	National Broadcasting and Concert Bureau Hour, N. Y. (Musical)	Sustaining
11:00	Kozak Radiogram, (Announcement)	Commercial

Saturday, September 15:

10:00-11:00	Lucky Strike Program (Musical) N. Y.	Commercial
11:00-12:00	Dance Music broadcast from Buffalo, New York	Sustaining

299 Sunday. September 16:

10:00-10:15	Biblical Drama, N. Y.	Sustaining
10:15-10:30	Television Transmission	

Monday, September 17:

10:00-10:15	General Motors Family Party, N. Y. (Musical)	Commercial
10:15	Howard Time, N. Y. (Announcement)	Commercial
10:15-10:30	Cabin Door (Musical) N. Y.	Sustaining
10:30-11:00	Musical Program-Studio	Sustaining
11:00	Kozak Radiogram (Announcement)	Commercial
11:00-12:00	Sax Smith and His Cavaliers, (Music) Rochester, N. Y.	Sustaining

Tuesday, September 18:		
10:00-11:00	Radio Industries Banquet, N. Y. (Music and addresses)	Sustaining
11:00	Kozak Radiogram (Announcement)	Commercial
11:00-12:00	Speech by Governor Smith from Omaha, Nebraska	Commercial
Wednesday, September 19:		
10:00-10:30	Palmolive Hour, N. Y. (Musical)	Commercial
10:30	Democratic National Campaign (N. Y.) (Speeches)	Commercial
11:00	Howard Time, N. Y. (Announcement)	Commercial
11:00	Kozak Radiogram (Announcement)	Commercial
Thursday, September 20:		
10:00	Halsey Stuart and Co. Program (N. Y.) (Musical)	Commercial
10:30	Howard Time, N. Y. (Announcement	Commercial
10:30	Speech by Governor Smith from Oklahoma City, Okla.	Commercial
11:40-12:30	Organ Recital—Albany, N. Y. (Music)	Sustaining
Friday, September 21:		
10:00-11:00	National Broadcasting and Concert Bureau Hour, N. Y. (Musical)	Sustaining
Saturday, September 22:		
10:00-11:00	Lucky Strike Program N. Y. (Music)	Commercial
11:00-12:00	Dance Music (11:00-11:25 Schdy.) (11:25-12:00 N. Y.)	Sustaining
Sunday, September 23:		
10:00-10:15	Musical Program, N. Y. Studio	Sustaining
10:15-10:30	Television Transmission	
300 Monday, September 24:		
10:00-10:30	Program sponsored by California Fruit Ass'n. N-C New York	
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:00-12:00	Opera "Rigoletto" New York	Sustaining
Tuesday, September 25:		
10:00	Clicquot Club Eskimos N. Y. (Musical)	Commercial
10:30	Howard Time, N. Y. (Announcement)	Commercial
10:30-11:30	Palais D'Or Orchestra, N. Y.	Sustaining
11:30-12:00	Television Transmission	
Wednesday, September 26:		
10:00-10:30	Palmolive Hour, N. Y. (Musical)	Commercial
10:30-11:30	Democratic National Campaign (N. Y.) (Music and Speeches)	Commercial
11:00	Howard Time, N. Y. (Announcement)	Commercial
Thursday, September 27:		
10:00-10:30	Halsey Stuart and Co. Prog. (N. Y.) (Musical)	Commercial
10:30-11:00	Musical Program—Studio	Sustaining
11:00-11:30	Musical Program from Rochester, N. Y.	Sustaining
11:30-11:45	Republican Campaign (Upstate chain)	Commercial
11:45-12:30	Organ Recital—Albany, N. Y.	Sustaining

Friday, September 28:

10:00-10:05	Red Cross Talk—N. Y.	Sustaining
10:05-11:00	National Broadcasting and Concert Bureau Hour, New York (Music)	Sustaining

Saturday, September 29:

10:00-11:00	Lucky Strike Program, N. Y. (Musical)	Commercial
11:00	Howard Time, N. Y. (Announcement)	Commercial
11:00-12:00	Dance Music, Albany, N. Y.	Sustaining

Sunday, September 30:

10:00-10:15	Musical Program, N. Y. Studio	Sustaining
10:15-10:30	Television Transmission	

301 Monday, October 1:

10:00-11:00	National Democratic Campaign, Rochester	Commercial
11:00	Howard Time (announcement)	Commercial
11:00-12:00	Dance orchestra, Rochester	Sustaining

Tuesday, October 2:

10:00	Clicquot Club Eskimos (musical) N. Y.	Commercial
10:30	Howard Time (announcement)	Commercial
10:30-11:30	Dance music, New York	Sustaining
11:30-12:00	Television	Sustaining

Wednesday, October 3:

10:00	Palmolive N. Y. (musical)	Commercial
10:30	Howard Time (announcement)	"
10:30-11:00	National Democratic Campaign speeches N. Y.	"

Thursday, October 4:

10:00-10:30	Halsey Stuart N. Y. (musical)	"
10:30-11:00	WGY Orchestra, Schenectady	Sustaining
11:00-11:30	Dance music N. Y.	"
11:30-11:45	National Republican Campaign speeches Rochester	Commercial
11:46-12:25	Organ recital Albany	Sustaining

Friday, October 5:

10:00-11:00	National Concert Bureau, New York	Sustaining

Saturday, October 6:

10:00-11:00	Lucky Strike Dance Orchestra, New York	Commercial
11:00	Howard Time (announcement)	"
11:00-12:00	Phil Romanio's orchestra, Albany	Sustaining

Sunday, October 7:

10:00-10:15	Atwater Kent (musical) New York	Commercial
10:15-10:30	Television Schenectady	Sustaining

Monday, October 8:

10:00	General Motors New York (musical)	Commercial
10:30-11:00	Mixed Quartet, Schenectady	Sustaining
11:00-12:00	Rochester dance program scheduled, wire failed	"

Tuesday, October 9:

10:00	Clicquot Club Eskimos (musical)	Commercial
10:30	Howard Time (announcement)	"
10:31-11:00	New York musical	Sustaining
11:00-11:31	Hotel Manger Orchestra New York	"
11:31-12:00	Television Schenectady	"

302 Wednesday, October 10:

10:00-10:30	Palmolive (Musical) New York	Commercial
10:30-11:00	Nat'l. Democratic Campaign New York	"
11:01	Howard Time (announcement)	"

Thursday, October 11:

10:00	Halsey Stuart (musical)	"
10:30	Howard Time (announcement)	"
10:30-11:30	Carborundum program (musical) Buffalo	"
11:30-11:45	Republican Nat'l. Campaign speech Schenectady	"
11:45-12:00	Organ program Albany	Sustaining

Friday, October 12:

10:00-11:00	National Concert Bureau New York	"

Saturday, October 13:

10:00-11:00	Lucky Strike Musical program, N. Y.	Commercial
11:00	Howard Time (announcement) N. Y.	"
11:00-12:00	Dance program, Buffalo	Sustaining

Sunday, October 14:

10:00-10:15	Atwater Kent musical New York	Commercial
10:15-10:30	Television Schenectady	Sustaining

Monday, October 15:

10:00-10:30	General Motors program musical N. Y.	Commercial
10:30	Howard Time (announcement) N. Y.	"
10:31-11:00	Mixed Quartet Schenectady	Sustaining
11:00-12:00	Dance music Rochester	"

Tuesday, October 16:

10:00-10:30	Clicquot Club musical N. Y.	Commercial
10:31	Howard Time (announcement) N. Y.	"
10:31-11:00	Zeppelin Reception program N. Y.	Sustaining
11:00-11:30	Dance program Albany	"
11:30-12:00	Television Schenectady	"

Wednesday, October 17:

10:00	Palmolive musical, N. Y.	Commercial
10:30-11:00	Nat'l. Democratic Campaign Chicago	"
11:00	Howard Time (announcement) N. Y.	"

Thursday, October 18:

10:00	Halsey Stuart musical N. Y.	"
10:30	Howard Time (announcement) N. Y.	"
10:30-11:30	Carborundum program Buffalo musical	"
11:30-11:45	Nat'l Republican Committee Buffalo	"
11:45-12:30	Organ program Albany	Sustaining

303 Friday, October 19:

10:00	Bourjois Musical program N. Y.	Commercial
10:30	Howard Time (announcement) N. Y.	"
10:31-11:00	National Concert program N. Y. musical	Sustaining

Saturday, October 20:

10:00-11:00	Lucky Strike musical program, N. Y.	Commercial
11:00	Howard Time (announcement) N. Y.	"
11:00-12:00	Van Curler dance program Schenectady	Sustaining
12:00-12:30	Television, special, for Canada	"

Sunday, October 21:		
10:00-10:15	Atwater Kent N. Y. musical	Commercial
10:15	Howard Time (announcement) N. Y.	"
10:15-10:30	Television Schenectady	Sustaining
Monday, October 22:		
10:00	General Motors musical N. Y.	Commercial
10:30	Howard Time (announcement) N. Y.	"
10:30	Mixed Quartet Schenectady	Sustaining
11:00-12:00	Dance program Rochester	"
Tuesday, October 23:		
10:00	Cliquot Club musical program N. Y.	Commercial
10:30	Howard Time (announcement) N. Y.	"
10:30-11:30	National Republican Campaign Missouri	"
11:30-12:00	Television Schenectady	Sustaining
Wednesday, October 24:		
10:00-10:30	Palmolive musical program N. Y.	Commercial
10:30-11:00	National Democratic Campaign N. Y.	"
11:00	Howard Correct Time (announcement) N. Y.	"
Thursday, October 25:		
10:00	Halsey Stuart musical N. Y.	"
10:30	Howard Time (announcement) N. Y.	"
10:30-11:30	Carborundum musical Buffalo	"
11:30-11:45	National Republican Campaign Rochester	"
11:45-12:30	Organ program Albany	Sustaining
Friday, October 26:		
10:00	Democratic National Campaign, New Jersey	Commercial
10:30	Howard Time (announcement) N. Y.	"
10:30-11:30	National Concert Bureau N. Y.	Sustaining
11:30-12:00	Hawaiian Trio Schenectady	"

KOLIN HAGER.

Subscribed and sworn to before me this 27th day of October, 1928.

T. W. BAUMGRAS,
Notary Public.

304 Federal Radio Commission, Washington, D. C.

Commissioners: Ira E. Robinson, Chairman; Eugene O. Sykes, Vice Chairman; Orestes H. Caldwell, Sam Pickard, Harold A. Lafount. Carl H. Butman, Secretary.

November 5, 1928.

General Electric Company,
1 River Road,
Schenectady, New York.

DEAR SIRS:

The Federal Radio Commission hereby acknowledges receipt of your application for Modification of Station License dated November 3, 1928.

File Number 1-M-B-128 has been assigned thereto.

All future correspondence referring to this application should bear the above file number.

This application will be brought to the attention of the Commission and you will be duly advised when its decision is made.

Very truly yours,

CARL H. BUTMAN.
CARL H. BUTMAN,
Secretary.

Federal Radio Commission's Appendix.

(Included in Record by Appellee and Objected to by Appellant.)

305 The Davis Amendment.

The problems of the commission in endeavoring to achieve better radio reception and at the same time to work toward the "fair, efficient, and equitable radio service" as between the different States and communities, as required by section 9 of the radio act of 1927 before the amendment, were somewhat changed in character by the amendment which became law on March 28, 1928. (Appendix E (1).) It has become popularly known as the Davis amendment. It has as its declared purpose:

That the people of all the zones * * * are entitled to equality of radio-broadcasting service, both of transmission and reception.

It then proceeds to prescribe the methods for attaining the desired equality. These methods are as follows:

1. The licensing authority shall, as nearly as possible, make and maintain an equal allocation broadcasting licenses, of bands of frequency or wave lengths, of periods of time for operation, and of station power to each of said zones when and in so far as there are applications therefor; and

2. Shall make a fair and equitable allocation of licenses, wave lengths, time for operation, and station power to each of the States, the District of Columbia, the Territories, and possessions of the United States within each zone, according to population.

Congress directed that the equality should be carried into effect whenever necessary or proper—

By granting or refusing licenses or renewals of licenses, by changing periods of time for operation, and by increasing or decreasing station power when applications are made for licenses or renewals of licenses.

The amendment contains a proviso permitting a zone which is over its quota under any of the four headings of prescribed equality to borrow from a zone which is under its quota, the borrowing to be shown in temporary licenses.

306 Radiobroadcasting service depends in the first instance upon geographical considerations, principally distance and area, and not upon population. Approximately correct figures with regard to population and area of each zone, and of the radius of the largest circle that can be drawn in each zone, and as follows:

	Population.	Area.	Radius of largest circle.
		Square miles.	*Miles.*
First zone	27,385,288	129,110	250
Second zone	28,123,000	247,517	131
Third zone	28,088,618	761,895	427
Fourth zone	26,786,192	658,148	380
Fifth Zone	11,266,244	1,774,437	725

A given number of broadcasting stations of given power will give much better service to a zone which is small in area than to a zone which is large in area. The commission in working out the proper application of the amendment, desired to take advantage so far as possible of the difference in time between the Atlantic and Pacific coasts, of the daytime operation of stations, of the greater use of Canadian-shared channels which is possible in the South, and other considerations which could not easily be accommodated to mathematical equality. The "borrowing" clause proved to be of practically no assistance in solving the problem, because there were very few cases where a facility due any particular area could be spared from the service of that area.

There was in the commission a difference of opinion as to the intention of Congress with regard to the method of putting the amendment into force. A majority of the commission have construed the amendment as requiring an immediate reallocation of broadcasting facilities so as to attain the prescribed equality. Commissioner Robinson has construed the amendment as indicating a policy to be followed in the future by the commission in gradual steps without calling for any general rearrangement of stations immediately, and that the equalization was to be accomplished "when and in so far as there are applications." There has also been a difference of opinion as to whether the amendment, properly construed, requires an eqality in number of licensed broadcasting stations by zone without regard to division of time or whether two or more stations dividing time in one zone may be balanced as against one station occupying full time in another zone.

On June 30, 1928, the broadcasting facilities of the United States were distributed among the five zones approximately as follows:

	Total number of stations.	Total frequencies in use.	Total power.
First zone	128	64	228,135
Second zone	112	53	109,990
Third zone	116	54	59,535
Fourth zone	206	73	162,805
Fifth zone	134	74	67,145

These figures are of only approximate accuracy
307 but will serve the purpose. They include 13 portable stations which were forced to cease operation beginning with July 1, 1928. They also include under the heading of "Total power" a certain amount due to increases granted to new stations under construction permits or to old stations, particularly in the third zone. Appendix E (2) shows an allocation of radio facilities to the various States and Territories as of June 30, 1928.

(a) *Various plans presented to the commission for compliance with the Davis amendment.*—The problem of applying the Davis amendment to the approximately 700 existing broadcasting stations was submitted by the commission to

a group of experts consisting largely of well-known radio engineers. This group submitted a memorandum to the commission on March 30, 1928, setting forth a plan classifying the 90 broadcasting channels into three groups—"exclusive," "regional," and "local"—apportioning these channels equally to the five zones and each zone to the State so far as possible, in accordance with the population. The memorandum was accompanied by two sample allocations which differed only in the number of channel assigned to exclusive and regional service, respectively. In one of these it was proposed to allocate 50 channels for rural as well as urban service, each channel to be exclusive, and 36 for regional service with an average of 2½ stations on each channel. In the second the exclusive and regional channels were 30 and 56, respectively. In both cases 4 channels were to be devoted to local stations. The average power contemplated on the local channels was to be 100 watts, on the regional 500 watts, and on the exclusive 20 kilowatts. The memorandum, together with the sample allocations, is set forth in Appendix E (3).

The commission held a conference with a number of radio engineers on April 6, 1928. Dr. J. H. Dellinger, of the Bureau of Standards, acted as chairman of the conference. The broadcasting committee of the Institute of Radio Enginers submitted a report, which is contained in Appendix E (4), likewise favoring the plan of allocation just mentioned and covering other matters of importance for the prevention of interference. The engineers present adopted a resolution favoring the plan calling for 50 exclusive channels and 36 regional channels. This resolution is set forth in Appendix E (5). Doctor Dellinger prepared a summary of the discussion and conclusions of the conference, which is set forth in Appendix E (6).

On April 23, 1928, the commission held a further hearing to permit the radio industry to express its views on the proper method of applying the Davis amendment. The meeting was held largely at the request of the National Association of Broadcasters, the Federated Radio Trades Association, and the Radio Manufacturers' Association. It was attended, however, by a number of persons representing practically all interests concerned directly or indirectly in broadcasting and including a number of the radio engi-

neers who had participated in the previous discussion. A partial list of those present is contained in Appendix. Congressman Davis, the author of the amendment, was unable to be present, but submitted to the commission a letter outlining his views as to its proper application, which letter is set forth in Appendix E (7). A series of recommen-
308 dations was made to the commission in a memorandum submitted by the National Association of Broadcasters, the Federated Radio Trades Association, and the Radio Manufacturers' Association, which memorandum is set forth in Appendix E (8). The memorandum, while expressing sympathy with the ideals sought to be attained by the engineers' recommendations, suggested a method of procedure which was calculated to bring about as small a change in existing allocations as was possible, consistent with the requirements of the law, at the same time leaving the way open to a gradual improvement of conditions. Suggestions were also made in a memorandum presented by Louis B. F. Raycroft, vice president of the National Electric Manufacturers' Association (Appendix E (9)), and Louis G. Caldwell, representing several individual broadcasting stations (later general counsel of the commission), the latter suggestions being incorporated in a printed pamphlet which is too long for reprinting in the report. Doctor Dellinger prepared a memorandum discussing the proposals made at the hearing, which is set forth in Appendix E (10). Experts employed by the commission made a tabulation showing the percentages of radio facilities assignable to each State in proportion to population, based upon estimates in the 1928 population prepared by the United States Census Bureau, which gives the total population of the United States as 121,649,342. This is contained in Appendix E (11).

309 APPENDIX E (3).

Engineers' Broadcast Memorandum Submitted to the Commission on March 30, 1928.

Experts employed by the commission submitted the following memorandum on March 30, 1928, which was used as a basis for discussion at the hearing of radio engineers

April 6, 1928, and at the hearing of the broadcasters and manufacturers on April 23, 1928, to consider the most practical way to put into effect the equitable distribution clause of the radio act:

Allocation of Broadcasting Channels to Zones and States.

Attached are two sample allocations giving assignments of broadcasting channels to zones an States. These allocations are intended to comply with the provisions of the radio act of 1927 as recently amended. Both allocations are based upon a classification of broadcasting channels into three groups—national, regional, and local. The channels of each of these groups are apportioned equally to the five zones and in each zone are apportioned to the States, so far as possible in accordance with their population.

The power permitted for use by each assignment would on the average be as follows, subject to such modification as may be required or permitted by the terms of the radio act: National channels, 20,000 watts; regional channels, 500 watts; local channels, 100 watts.

Classification of Channels.

The two allocations marked "Example A" and "Example B" differ primarily in the proportions by which the broadcasting spectrum is divided into the national and regional groups. The number of channels in each example assigned to each class is given in the following table:

	Example A	Example B
Cleared channels, one full-time assignment on each channel without duplication in any other part of the country	50	30
Regional channels, each zone to have assignments on half of these channels	36	56
Local channels, each zone to have five assignments on each of these channels	4	4
Total number of channels (omitting 6 used by Canada)	90	90

310 Number of Full-time Assignments.

The number of stations or groups of stations which, under each of these plans may be given full-time assignments is as follows:

Classification and Number of Station Assignments.

	Example A.		Example B.	
	Per zone.	Total number.	Per zone.	Total number.
Class C, for assignment to clear channels	10	50	6	30
Class B, for assignment to regional channels	18	90	28	140
Class A, for assignment to local channels	20	100	20	100
Total number of full-time assignments for night-time simultaneous operation	48	240	54	270

Apportionment of Channels to Zones and to States.

The channels of each class are apportioned to the zones and States as follows:

Each zone is given an equal number of channels of each class. The number of assignments in each zone is 20 per cent of the total number of assignments in the country.

In Example A, there are then allotted to each State the number of assignments of each class which corresponds to the proportion of its population to the population of the zone. The allotments of assignments to the several States are summarized in the following table. Certain States having fractional assignments are grouped, the group having an integral full-time assignment.

Example A.

Zone I:

	Class C.	Class B.	Class A.
Maine	½	½	1
New Hampshire		½	1
Vermont		½	1
Massachusetts	1½	3	3
Connecticut	1	1	1
Rhode Island		½	1
New York	4	7½	7
New Jersey	1½	2½	2
Delaware	1½	½	1
Maryland		1	1
District of Columbia		½	1
Porto Rico	...	...	...
Virgin Islands	...	...	...
Total	10	18	20

Zone II:

Pennsylvania	3½	6½	7
Virginia	1	1½	2
Ohio	2½	4	5
Michigan	1½	3	3
Kentucky	1	2	2
West Virginia	½	1	1
Total	10	18	20

Zone III:

North Carolina	1	2	2
South Carolina	½	1	1
Georgia	1	2	2
Florida	½	½	1
Alabama	1	1½	2
Mississippi	½	1½	2
Tennessee	1	1½	2

	Class C.	Class B.	Class A.
Arkansas	½	1½	1
Louisiana	1	1½	1
Texas	2	3½	4
Oklahoma	1	1½	2
Total	10	18	20
Zone IV:			
Indiana	1	2	2
Illinois	2½	4½	5
Wisconsin	1	2	2
North Dakota	½	½	1
South Dakota	½	½	1
Iowa	1	2	2
Nebraska	½	1	1
Kansas	½	1½	1
Missouri	1½	2½	3
Minnesota	1	1½	2
Total	10	18	20
Zone V:			
Montana	½	1	1
Idaho	½	1	1
Wyoming	½	½	1
Colorado	1	2	2
New Mexico	½	½	1
Arizona	½	½	2
Utah	½	1	1
Nevada	0	½	1
Washington	1½	2½	3
Oregon	1	1½	1
California	4	7	7
Hawaii	...	...	...
Alaska	...	...	...
Total	10	18	20

311 In Example B, the cleared channels, allocated to a zone as in Example A, are assigned to States accord-

ing to population, fractional assignments being disregarded. This results in the assignment of six of each zone's allotment of class C channels. The remaining 4 of the 10 class C channels originally allotted for use in each zone may then be added to the regional group, until such time as there is a reallocation based on a new census. This gives a total of 56 class B channels, of which 28 may be used in each zone.

One of the class B channels allotted for use in a given zone is assigned to each State. The remaining regional assignments are apportioned to the States of that zone in proportion to their population. The 20 class A assignments are apportioned to the States as in Example A.

The allotments of assignments to States appearing in Example B are summarized in the following table:

Example B.

	Class C.	Class B.	Class A.	Total.
Zone I:				
Maine	..	1	1	2
New Hampshire	..	1	1	2
Vermont	..	1	1	2
Massachusetts	1	4	3	8
Connecticut	..	2	1	3
Rhode Island	..	1	1	2
New York	4	10	7	21
New Jersey	1	4	2	7
Delaware	..	1	1	2
Maryland	..	2	1	3
District of Columbia	..	1	1	2
Porto Rico	..	..	..	..
Virgin Islands	..	..	..	..
Total	6	28	20	54
Zone II:				
Pennsylvania	3	9	7	19
Virginia	0	3	2	5
Ohio	2	6	5	13
Michigan	1	5	3	9

	Class C.	Class B.	Class A.	Total.
Kentucky	0	3	2	5
West Virginia	0	2	1	3
Total	6	28	20	54
Zone III:				
North Carolina	1	3	2	6
South Carolina	0	2	1	3
Georgia	1	3	2	6
Florida	0	2	1	3
Alabama	1	3	2	6
Mississippi	0	2	2	4
Tennessee	1	2	2	5
Arkansas	0	2	1	3
Louisiana	0	2	1	3
Texas	2	5	4	11
Oklahoma	0	2	2	4
Total	6	28	20	54
Zone IV:				
Indiana	1	3	2	6
Illinois	2	7	5	14
Wisconsin	1	3	2	6
North Dakota	0	1	1	2
South Dakota	0	1	1	2
Iowa	0	3	2	5
Nebraska	0	2	1	3
Kansas	0	2	1	3
Missouri	1	3	3	7
Minnesota	1	3	2	6
Total	6	28	20	54
Zone V:				
Montana	0	2	1	3
Idaho	0	2	1	3
Wyoming	0	1	1	2

Colorado	1	3	2	6
New Mexico	0	1	1	2
Arizona	0	1	1	2
Utah	0	2	1	3
Nevada	0	1	1	2
Washington	1	4	3	8
Oregon	0	2	1	3
California	4	9	7	20
Hawaii & Alaska	..	..	..	..
Total	6	28	20	54

Method of Allocation.

Class A.—In both examples the following four frequencies are designated as class A channels—1,350, 1,360, 1,410, and 1,500 kilocycles. By providing a separation of 50 kilocycles, or more, between three of the channels of this class, it is possible to make class A assignment to the required number of stations in each zone, even though several groups of three may be located in close proximity to one another geographically. The 1,500 kilocycle channel may be used also by portable broadcasting stations. This frequency is the border frequency between the broadcasting band and the adjacent band of higher frequency allocated by the International Radio Conference to mobile radio service.

Class B.—In both examples, the lower six channels, namely 550 to 600 kilocycles, inclusive, are designated as class B channels. This range includes two channels (580 and 600 kilocycles) which are shared with Canada. In addition, the remaining nine channels which are also
312 shared with Canada are designated as class B channels. These are the following: 630, 780, 880, 890, 930, 1,010, 1,120, 1,200, and 1,210 kilocycles.

In Example A, the remaining 21 class B channels are those from 1,260 to 1,490 kilocycles, inclusive, omitting the three channels in this range (1,350, 1,360, and 1,410 kilocycles) previously designated for class A.

Class C.—The frequency band from 610 to 1,250 kilocycles, inclusive, is designated as class C with the omission of the channels shared with Canada listed above and the following channels which are used by Canada exclusively: 690, 730, 840, 910, 960, and 1,030 kilocycles.

The class C channels are assigned to the five zones in the order of rotation—I, IV, II, V, III. This order of rotation makes it possible to secure an adequate geographical separation between stations assigned to channels separated by 10, 20, 30, or 40 kilocycles. This results also in the assignment of channels in a given zone having a separation of 50 kilocycles as a minimum; this separation being increased in a number of instances on account of the existence of Canadian channels. If the channels from 610 to 1,250 kilocycles are apportioned into the five groups in this way, it develops that one of these groups contains a large number of channels which are next to channels used by Canada. This group of channels should, therefore, be used by the United States in Zone III. This therefore determines in accordance with the order of rotation given above which group of channels should be used in each of the other zones. The following groups of channels are therefore assigned to class C stations in the several zones:

Zone I.	Zone II.	Zone III.	Zone IV.	Zone V.
Kilocycles.	*Kilocycles.*	*Kilocycles.*	*Kilocycles.*	*Kilocycles.*
640	660	620	650	610
700	720	680	710	670
760	790	750	770	740
820	850	810	830	800
900	940	870	920	860
980	1,000	970	990	950
1,050	1,070	1,040	1,060	1,020
1,100	1,130	1,090	1,110	1,080
1,160	1,180	1,150	1,170	1,140
1,230	1,250	1,220	1,240	1,190

In the assignment of class B channels to zones, attention is given to the fact that nine of the Canadian shared channels used in this way are adjacent to class C channels used by high-power stations. These Canadian shared channels should, therefore, be used in zones other than those in which the high-power stations on the adjoining channels are located. For example, the 630 kilocycle channel may be used in Zones II, IV, or V, but should not be used in Zones I and III. If proper assignments of the Canadian shared channels are made to Zones I and II, there results a definite as-

signment of the remaining class B channels to those two zones.

In order to secure the necessary distance separation between stations using a given class B channel, and in order to secure the necessary frequency separation between class B stations in a given zone, the class B channels are assigned alternately for use in Zones I and II. A class B channel assigned to Zone I may be assigned also to Zone V and to either Zone III or Zone IV. Similarly, a class B channel assigned to Zone II may be assigned to either Zone III or Zone IV. It might also be assigned to Zone V. The use of such a channel simultaneously in Zones III, IV, and V, while perhaps sometimes permissible from an interference standpoint, would result in twice as many assignments to each of these zones as to Zones I and II. A class B channel used in Zone I may, therefore, be used in either Zone III or Zone IV, but not both; and a class B channel used in Zone II may be used in either Zone III or Zone IV, but not both. In making assignments, one-half of the channels have been assigned to Zone I, and one-half to Zone II. Each channel assigned to Zone I is also assigned to a State in the eastern part of either Zone III or Zone IV and each channel assigned to Zone II is also assigned to a State in the western part of Zone III or Zone IV. This secures the maximum distance separation between assignments in these zones while maintaining an equality in the total number. Assignments to States in Zone V are made on the same channels assigned to Zone I.

313 Power.

By providing that each class of assignment carries with it a certain specification as to power, the proper distribution of channels to States carries with it a definite distribution of power to States. It is recognized that certain stations may not use the full power authorized for channels to which they are assigned. This may make possible the temporary use of additional power on other channels where permissible from a radio interference standpoint. Since each class C channel is used exclusively by a single full-time assignment, there is no technical reason why this should be fixed at any limit below that which will be determined by economic considerations. In order, however,

to reach a definite value for the total power authorized for use on these channels, the power which may be used for each class C assignment may be fixed tentatively at 20,000 watts. This may be increased at a later time thus increasing the general power level of all class C assignments in all zones.

The power designated for each class B assignment is 500 watts. This will have to be reduced to 250 watts in the case of class B stations assigned to Canadian shared channels when these stations are located within 250 miles of the Canadian border. The power of certain class B stations may be increased to 1,000 watts, where these stations are located at points far removed geographically from other stations on the same channel.

The following table gives the power associated with each class of assignment:

Class.	Power per assignment.	Power per channel.	Power per zone.	Total power.
C	20,000	20,000	200,000	1,000,000
B	500	1,000	9,000	45,000
A	100	250	2,000	10,000

It may be desirable to authorize increase in power for daytime and summer time operation.

Number of Station Assignments.

The number of station assignments depends entirely on the amount of time division which is required. Since the number of full-time channel assignments to zones has been made equal, the number of station assignments in the several zones will be equal, if equal time divisions are required. If licenses granted to stations which share time are counted as fractional assignments, the sum of these fractional assignments would equal the number of full-time assignments.

Assignments to such stations as operate only during the daytime are not included in these allocations.

Requirements to be Met by Stations of Each Class.

In order to determine whether a station or an applicant is eligible for consideration for a given class of assignment, it seems essential that certain requirements be adopted with

which the stations of the several classes must comply. These requirements should be most rigid in the case of the class B and class C stations and should, even in the case of class A stations, be such as to include only those stations whose operation is in the public interest.

These requirements may be primarily technical in their nature and thus subject to measurement by the field staff of the Radio Division of the Department of Commerce. To the technical requirements may, of course, be added other requirements based upon the public interest which the station is endeavoring to serve. The technical requirements which may be specified include such points as accuracy of maintenance of frequency, freedom from undesired emissions such as harmonics, amount of power used, and the percentage of undistorted modulation of the emitted wave. Consideration will need to be given to the numerical values which should be specified for each of these and similar characteristics in the case of stations of each of the several classes.

314 Allocations—Examples A and B.

The examples of allocations attached hereto indicate the State to which each channel may be assigned, together with a designation of the class of the station. Assignments to the territorial possessions of the United States have not been included.

The particular number of assignments to each State is dependent upon the population figures which are used. These two examples differ slightly in this respect since Example A is based on the census of January 1, 1920, while Example B is based upon the official estimates made by the Bureau of the Census as of July 1, 1928. They may nevertheless serve satisfactorily as a basis for study.

The determination of which particular stations or group of stations shall have the assignments made to the several States, in either of the attached allocations, is a matter for decision by the commission. The relations between frequency separation, geographical separation, and power given in the basic allocation which is finally adopted should be studied with care to make sure that they provide such freedom from interference as is consistent with a maximum of broadcasting service.

Allocation of Broadcasting Channels to States.

Channel.	Example A. State.	Class.	Example B. State.	Class.
550	Pennsylvania	B	Pennsylvania	B
	Missouri	B	Missouri	B
560	Massachusetts ...	B	Massachusetts	B
	North Carolina...	B	North Carolina....	B
	California	B	California	B
570	.....	..	Pennsylvania	B
			Texas	B
[1] 580	New York.....	B	New York	B
	Illinois	B	Illinois	B
	Utah	B	Utah	B
590	Ohio	B	Ohio	B
	Missouri	B	Missouri	B
	Kansas	B		
[1] 600	Connecticut	B	Connecticut	B
	Alabama	B	Alabama	B
	Florida	B	Colorado	B
	Colorado	B		
610	Washington	C	Washington	C
620	Texas	C	Texas	C
[1] 630	Pennsylvania ...	B	Pennsylvania	B
	Tennessee	B	Tennessee	B
	Mississippi	B		
640	New York.....	C	New York.....	C
650	Nebraska	C	Ohio	B
	Kansas	C	Nebraska	B
660	Michigan	C	Michigan	C
670	California	C	California	C
680	Tennessee	C	Tennessee	C
690	Canadian exclusive	..	Canadian exclusive.	
700	Maryland	C	New York.....	B
	Delaware	C	North Carolina....	B
	District of Columbia	C	Utah	B
710	Illinois	C	Illinois	C
720	Pennsylvania	C	Pennsylvania	C
730	Canadian exclusive	..	Canadian exclusive.	

740	Colorado	C	Colorado	C
750	Georgia	C	Georgia	C
760	New Jersey	C	New Jersey	C
770	Iowa	C	Iowa	B
			Virginia	B
[1] 780	Kentucky	B	Kentucky	B
	Minnesota	B	Minnesota	B
790	Ohio	C	Ohio	C
800	California	C	California	C
810	Alabama	C	Alabama	C
820	Massachusetts	C	Massachusetts	C
830	Minnesota	C	Minnesota	C
840	Canadian exclusive	..	Canadian exclusive.	
850	Michigan	C	Pennsylvania	B
	Pennsylvania	C	South Carolina	B
860	Montana	C	Maryland	B
	Wyoming	C	Indiana	B
			Montana	B
870	Florida	C	New Jersey	B
	South Carolina	C	Florida	B
			Colorado	B
[1] 880	Rhode Island	..	Rhode Island	B
	Wisconsin	B	Wisconsin	B
[1] 890	Pennsylvania	B	Pennsylvania	B
	Louisiana	B	Arkansas	B
	Arkansas	B	California	B
	California	B		
900	New York	C	New York	C
910	Canadian exclusive	..	Canadian exclusive.	
920	Illinois	C	Illinois	C
[1] 930	New York State	B	New York State	B
	Georgia	B	Georgia	B
	Washington	B	Washington	B
940	Kentucky	C	Kentucky	B
			Minnesota	B
950	California	C	California	C
960	Canadian exclusive	..	Canadian exclusive.	

[1] Canadian sharer under Examples A and B.

	Example A.		Example B.	
Channel.	State.	Class.	State.	Class.
970	Texas	C	Texas	C
980	New Jersey	C	Delaware	B
	Delaware	C	Wisconsin	B
	Maryland	C	Washington	C
	District of Columbia	C		
990	Missouri	C	Missouri	C
1,000	Pennsylvania	C	Pennsylvania	C
[1] 1,100	New York	B	New York	B
	Illinois	B	Illinois	B
	California	B	California	B
1,020	New Mexico	C	Vermont	B
	Arizona	C	Georgia	B
	Utah	C	Arizona	B
1,030	Canadian exclusive	..	Canadian exclusive.	
1,040	Louisiana	C	Pennsylvania	B
			Louisiana	B
1,050	Connecticut	C	Connecticut	B
	Rhode Island	C	Kansas	B
			Nevada	B
1,060	Wisconsin	C	Wisconsin	C
1,070	Ohio	C	Ohio	B
	West Virginia	C	Illinois	B
1,080	California	C	California	B
1,090	Oklahoma	C	West Virginia	B
			Oklahoma	B
1,100	New York State	C	New York State	C
315				
1,110	Indiana	C	Indiana	C
1,120	New York	B	New York	B
	New Jersey	B		
	Louisiana	B	Louisiana	B
	New Mexico	B	New Mexico	B
	Arizona	B		
1,130	Virginia	C	Virginia	B
			Minnesota	B
1,140	Idaho	C	New Jersey	B
	Washington	C	Alabama	B
			Idaho	B

1,150	North Carolina	C	North Carolina	C
1,160	Maine	C	Massachusetts	B
	New Hampshire	C	Texas	B
	Vermont	C	California	B
	Massachusetts	C		
1,170	North Dakota	C	Michigan	B
	South Dakota	C	South Dakota	B
1,180	Ohio	C	Ohio	C
1,190	Oregon	C	New York	B
			Florida	B
			Oregon	B
1,200	Virginia	B	Virginia	B
	Oklahoma	B	Oklahoma	B
1,210	Ohio	B	Ohio	B
	North Dakota	B	North Dakota	B
	South Dakota	B		
1,220	Mississippi	C	New Hampshire	B
	Arkansas	C	Mississippi	B
			California	B
1,230	New York	C	New York	C
1,240	Illinois	C	Michigan	B
	Missouri	C	Illinois	B
1,250	Pennsylvania	C	Pennsylvania	C
1,260	New York State	B	New York State	B
	Wisconsin	B	Wisconsin	B
	California	B	California	B
1,270	Michigan	B	Michigan	B
	Nebraska	B	Nebraska	B
1,280	Massachusetts	B	Massachusetts	B
	North Carolina	B	North Carolina	B
	Oregon	B	Oregon	B
1,290	Ohio	B	Ohio	B
	Texas	B	Texas	B
1,300	New Jersey	B	New Jersey	B
	Illinois	B	Illinois	B
	Wyoming	B	Wyoming	B
	Nevada	B		
1,310	Michigan	B	Michigan	B
1,310	Iowa	B	Iowa	B
1,320	District of Columbia	B	District of Columbia	B
	Mississippi	B	Mississippi	B
	California	C	California	B

Channel.	Example A. State.	Class.	Example B. State.	Class.
1,330	West Virginia	B	West Virginia	B
	Arkansas	B	Arkansas	B
1,340	New York	B	New York	B
	Indiana	B	Indiana	B
	Montana	B	Montana	B
1,350	5 station in each	A	5 stations in each	A
1,360	do	A	do	A
1,370	Pennsylvania	B	Pennsylvania	B
	Missouri	B	Missouri	B
1,380	New York State	B	New York State	B
	South Carolina	B	South Carolina	B
	Washington	B	Washington	B
1,390	Ohio	B	Ohio	B
	Texas	B	Texas	B
	Oklahoma	B		
1,400	Maine	B	Maine	B
	New Hampshire	B		
	Illinois	B	Illinois	B
	California	B	California	B
1,410	5 station in each	A	5 stations in each	A
1,420	Pennsylvania	B	Pennsylvania	B
	Virginia	B		
	Iowa	B	Iowa	B
1,430	New Jersey	B	New Jersey	B
	Georgia	B	Georgia	B
	Colorado	B	Colorado	B
1,440	Michigan	B	Michigan	B
	Tennessee	B	Tennessee	B
1,450	Indiana	B	Indiana	B
	Maryland	B	Maryland	B
	Idaho	B	Idaho	B
1,460	Pennsylvania	B	Pennsylvania	B
	Kansas	B	Kansas	B
1,470	New York	B	New York	B
	Alabama	B	Alabama	B
	California	B	California	B
1,480	Kentucky	B	Kentucky	B
	Texas	B	Texas	B

1,490	Massachusetts ...	B	Massachusetts	B
	Texas	B	Illinois	B
			Washington	B
1,500	5 stations in each[3].	A	5 stations in each[3].	A

[1] Canadian shared under Examples A and B.
[2] Canadian shared under Example A only.
[3] Including portable stations.

Appendix E (4).

Report of Broadcasting Committee of Institute of Radio Engineers Submitted in Part April 6, 1928.

The broadcast committee of the Institute of Radio Engineers submitted the following report April 6, 1928:

"At a regular meeting of the board of direction of the Institute of Radio Enginners held on April 4, 1928, letters from the Federal Radio Commission requesting certain suggestions from the institute regarding the allocation of broadcast channels to zones and States were read.

"It was decided by the board of direction that the invitation of the commission to send representatives to an informal conference to be held in Washington on April 6 to discuss these matters should be accepted.

"A committee composed of the following members
316 of the Institute of Radio Engineers was appointed:
R. H. Marriott (chairman), Dr. J. H. Dellinger, C. W. Horn, and L. E. Whittemore.

"The board took up a technical discussion of the matters contained in the letters from the Federal Radio Commission, and there was more or less a consensus of opinion in regard to the following points.

"The following suggestions cover the present state of the art and are intended to apply to transmission during hours of darkness throughout the entire year. Daylight ranges are less and more duplication in daytime in frequency allocation may be permissible.

"It is suggested that the nomenclature as proposed by the commission regarding national, regional, and local classifications of channels and stations be changed to the former Department of Commerce nomenclature which referred to the channels and stations of these types as classes C, B, and A, respectively, since the names are substantially

descriptive of the interfering effect of the stations and may therefore be misleading.

"In the matter of normal power for each class of station it is the board of direction's suggestion that it is to be noted that in order to cover large areas of the United States, with particular reference to rural districts, it is necessary to interconnect very large groups of powerful stations, including even class C stations.

"Normal power of class A stations should not exceed 250 watts. The normal power of class B stations should be from 300 to 1,000 watts, inclusive. The normal power of class C stations should be from 5,000 to 50,000 watts, with a provision that as soon as practicable these limits be raised (in the class C rating) with due regard to limitations imposed by local interference and interference with neighboring channels in then current receivers. The above figures are based upon receptions with 5-tube radio receivers.

"It is suggested that in each class the following number of channels may be used and the following time divisions should be required.

	Number of channels.	Number of assignments per channel.	Number of full-time assignments.	Extent of time division.	Total number stations.
Class A.....	4	50	200	None.	200
Class B.....	36	2½	90	None.	90
Class C.....	50	1	50	None.	50

"Time division is undesirable in that it increases the cost of operation. For this reason it is felt it should be minimized to the greatest extent compatible with other requirements.

"The board suggests that stations of each class should be required to meet the following technical requirements:

"*Maintenance of frequency.*—The present requirement of 500 cycles if adhered to is sufficient to prevent stations from wandering outside their channel assignments. The way in which further improvement in frequency control can be of benefit is in the elimination of beat-note interference between stations simultaneously occupying the same channel. To do this requires a frequency stability of the order of plus or minus 25 cycles. It may reasonably be an-

ticipated that technical methods for obtaining such stability will be available in about two or three years, or perhaps less. It is suggested that when such equipment becomes readily and commercially available the requirement be made plus or minus 30 cycles. It is doubtful that any requirement between this value and the present value would be of sufficient beneficial effect to warrant its use as an interim measure.

"*Freedom from harmonics.*—Harmonics should be eliminated in so far as the state of the art permits.

"*Per cent undistorted modulation.*—It is of best interest to the broadcaster to use the highest degree of modulation consistent with good quality."

317 APPENDIX E (5).

Resolutions Adopted by Conference of Engineers on April 6, 1928.

Resolution.

It is the opinion of the engineers in attendance that from a radio engineering standpoint, under the provisions of the 1928 law requiring equality between zones, plan A, submitted for discussion by the commission, modified as follows, represents the maximum obtainable radio service from the available broadcasting channels in the present state of the art:

	Channels.		Full-time assignments.	
	Per zone.	United States.	Per zone.	United States.
Class C, 5,000 to 50,000 watts	10	50	10	50
Class B, 300 to 1,000 watts	18	36	18	90
Class A, 0 to 250 watts	4	4	40	200

APPENDIX E (6).

Summary of Discussion at Conference of Engineers on April 6, 1928, by Dr. J. H. Dellinger.

Division into classes.—The readjustment of station allocations required by the 1928 radio law gives the Radio Com-

mission an opportunity to provide the radio listeners of the United States with a grade of radio broadcasting service far superior to that furnished under the present allocation of stations. A redistribution of broadcasting stations among the States will, if the proposed classification of services be established, result in the satisfactory reception of more programs at higher signal strengths by a greater number of listeners in a larger total area than at present and will do this with less interference than now exists.

The fundamental change required to bring about any material improvement is to provide a considerable number of channels upon which only one station operates. The reason for this is a purely physical fact. Since heterodyne interference extends to many times the distance to which actual program service from a broadcasting station extends, operation of two or more stations on a channel results in an area of destructive interference much greater than the area in which program service is provided. Program service, free from interference, can be furnished at great distances from a station only when the station has exclusive use of its channel.

Since there are only 90 channels available for broadcasting in the United States, 90 is the upper limit of the possible number of stations giving service at considerable distances.

When two or more stations operate simultaneously on a channel, program service can be furnished at short distances from each station without destructive heterodyne interference within that distance, provided the stations are located at proper distances apart corresponding to the power used. Under these conditions many stations can be operated for short-distance local service on a single channel. Outside the local service areas heterodyne interference will prevent satisfactory reception.

Sections of the country remote from centers of population can not be given service except by the stations first mentioned, which have exclusive use of their channels (class C).

It follows that the country as a whole can be given the service it demands only by having more than one class of stations—(1) long-distance stations, operating on exclusive channels; (2) shorter-distance stations, operating on

shared channels. Considering the broadcasting needs and development in this country, it is apparent that the second class can advantageously be subdivided into stations of moderate distance range (class B) and small stations of very small distance range (class A).

Number of channels in each class.—The number
318 of channels (50) indicated for class C stations is the minimum that should be provided, in view of the far greater service, both distant and local, that will be rendered by such channels, owing to the absence of heterodyne interference and the consequent possibility of the use of greater power. The distribution of the remaining 40 channels between classes B and A represents the best judgment of the engineers from present information. A further study should be made of this point on the basis of service requirements of various areas of the country. It is believed that the final answer on this point will not depart widely from the figures given.

Duplication of assignments per channel.—It is clear that the stations depended upon for service over large areas must operate on heterodyne-free channels and that therefore there must be only one assignment to each class C channel.

The moderate-distance (class B) and short-distance (class A) channels may each be used by a number of stations in simultaneous operation, since the only desideratum in good service within the local service range of each station. The power required for moderate-distance service (class B) will not permit as much duplication of stations on one channel as will the smaller power required for short-distance service (class A).

The amount of duplication recommended is: For each class B channel, on the average, two and a half assignments in the United States (i. e., the assignment of every other channel in each zone); and for each class C channel, 50 assignments in the United States (10 in each zone).

The limitation to two and a half assignments for each class B channel is determined by the geographical circumstances of the two smallest zones (1 and 2), together with the requirement of the law of equality between zones. Points in zones 1 and 2 average less than 500 miles apart,

a distance too small to permit the assignment of any one channel in both zones with the recommended power.

Equality with respect to classes.—The provisions of the law requiring equal distribution among the zones and, according to population, among the States of station licenses, frequencies, time, and power must be applied separately to each of the three classes of stations mentioned. This results from the inclusion of the number of licenses as one of the elements of equal distribution.

Station power.—In order to merit the use of a class C channel a station must be competent to serve a large area. It follows that no class C station should be allowed to operate with less than 5,000-watts power. The only upper limit for this class need be that fixed by the production of interchannel interference, and, in consideration of the geographical distribution possible, may be 50,000 watts at the present time.

For the moderate-distance (class B) channels, powers of 300 to 1,000 watts will give satisfactory service, and for the short-distance (class A) channels power should not exceed 250 watts per station because of the extensive duplication permitted.

As an exception to these general recommendations for classes B and A, it is noted that where two or more stations operating on the same channel are all increased in power by the same factor their heterodyne-free service ranges will be substantially unaffected and a better signal (with respect to noise interference) will be delivered within each service area. This will be at the expense of producing a stronger heterodyne whistle outside the service areas of the two stations concerned.

Time division.—The expedient of time division does not in general lead to superior service to the listener. It is inherently uneconomic. Where several stations in an area are now dividing time the duplication of plant and overhead necessarily results in poorer service than would result were these stations to be consolidated into a single station using all the time.

For the class C stations particularly time division should not be allowed. An exclusive (class C) channel is capable of delivering such excellent service over large areas that care should be taken not to restrict the possible service

from these channels by an uneconomic arrangement such as time division.

For the class B and class A channels there will doubtless be local conditions demanding, and perhaps justifying, time division in spite of its inherently uneconomic nature. However, the application of time division has been made difficult under the terms of the new law. Since the law requires equality of the number of hours and licenses among the zones, and, according to population, among the States within each zone, if time is divided on a given channel among several stations in any one State, this division must be duplicated on some channel in every other zone and proportionally in every State.

319 The same difficulty will exist in any attempt to divide time between stations located in different zones, as might be sought, e. g., to take advantage of the time difference between the east and west coasts. Time division between stations in widely separated localities is subject to the further objection of seriously complicating the maintenance of the proper frequency separation between stations in each of the localities to minimize interchannel interference.

APPENDIX E (7)

Copy of a Communication from the Hon. Edwin L. Davis, Congressman from Tennessee.

April 6, 1928.

Hon. E. O. Sykes, Acting Chairman,
And Other Members, Federal Radio Commission,
Washington, D. C.

DEAR GENTLEMEN:

This acknowledges receipt of yours of the 31st ultimo inclosing copy of letter to Mr. White, and copy of tentative plans under consideration for making an allocation of broadcasting stations in conformity with the newly enacted radio law, for which I thank you.

I had intended to accept your invitation to attend your meeting to-day, at which time you invite a discussion and criticism of these plans, but a matter has arisen which prevents my attendance at your meeting.

However, I wish to avail myself of the opportunity which you have kindly accorded to give any suggestions which may occur to me.

I have not had opportunity to thoroughly consider all features of your tentative plan, nor have I the time to now do more than make a few general suggestions for your consideration.

I wish to first refer to the language on page 10 of your tentative plan, as follows:

"It is recognized that certain stations may not use the full power authorized for channels to which they are assigned. This may make possible the temporary use of additional power on other channels where permissible from a radio interference standpoint. Since each class C channel is used exclusively by a single full-time assignment, there is no technical reason why this should be fixed at any limit below that which will be determined by economic considerations. In order, however, to reach a definite value for the total power authorized for use on these channels, the power which may be used for each class C assignment may be fixed tentatively at 20,000 watts. This may be increased at a later time, thus increasing the general power level of all class C assignments in all zones."

I respectfully, but most emphatically, dissent from the view that "there is no technical reason why this should be fixed at any limit below that which will be determined by economic considerations." While there would probably be no interference between class C stations operating exclusively on a single full-time wave length assignment with at least 50 kilocycles separation from similar stations, yet they would undoubtedly interfere with stations operating on assignments on each side of them.

I respectfully insist that the maximum station power should be 10,000 watts. The harmful effects of any power in excess of that far outweigh the benefits accruing to the the station employing the high power. In this connection, I beg to call attention to the testimony of Commissioner Caldwell appearing on page 111 of the House committee hearings.

I also suggest that a 500-watt station can not consistently project anything like a satisfactory regional program; it is insufficient in many instances for even a State station.

In this connection, I beg to refer to the testimony of Commissioner Pickard on page 230 of the House committee hearings, as well as the testimony of Commissioners Pickard and Caldwell with respect to the radius of different powered stations.

Wherefore I suggest that there is a proper place for both 5,000 and 1,000 watt stations, and that a drop from class C stations to 500 watts is wholly inadvisable and unjustified.

Furthermore, I suggest that the tentative plan is overloaded with so-called national stations, to which it is proposed to assign not only the most of the wave lengths,
320 but of the aggregate power as well. It occurs to me that it would be much more preferable and prove more satisfactory as a whole to provide for 25 stations authorized to employ not exceeding 10,000-watt power, and each assigned exclusively a single full-time wave length; and have 25 stations authorized to use not exceeding 5,000-watt power; 100 stations authorized to use 1,000-watt power, and whatever number and division that might be deemed advisable of stations authorized to employ 500 watts, 100 watts or 50 watts or less; this number of course being made to conform to the number of stations and the aggregate station power which the commission may determine to be proper for the broadcast structure.

Of course, I favor an equal allocation to each zone and a fair and equitable allocation among the States within each zone, according to population.

I think it would be entirely proper and in keeping with the act, in the event that any zone should not desire its full quota of maximum power stations, to divide such power among smaller powered stations within such zone, if there was a demand therefor.

On page 8 of your tentative plan, it is suggested that the Canadian shared channels should be used by the United States in Zone III, and a set-up accordingly is proposed. I respectfully dissent from this suggestion. If Canadian stations should employ high power on these channels, it would impair, if not destroy, their usefulness in the United States. While it would be proper to allocate a fair portion of these Canadian shared channels to Zone III, yet they should not be operated with anything like all of them. Most of the western section of this country and all

of the southern part of Zone V would be further removed from Canadian stations than would Zone III. Some sections of Zone III are nearer Canada than some of the States in Zone IV, and are substantially as near as the southern portions of Zones I and II.

Furthermore, in considering assignments to Zone III and the southern part of Zone V, consideration should be given to the channels being used in Mexico and Cuba. In fact, unless there is some definite agreement made between the United States and Mexico and Cuba along the line of the agreement with Canada, this is liable to become a disturbing factor.

No generally satisfactory result can be obtained without recognizing and dealing in a fair and scientific manner with the chain broadcasters. According to expressions of you gentlemen at the hearings, you recognize the importance and necessity of solving that problem in some manner. Chain programs should undoubtedly be made available in so far as practicable to those who desire to hear them, and yet they should not be given such assignments of wave lengths and power as will prevent the satisfactory broadcasting and reception of independent programs. High power is not needed for broadcasting chain programs except perhaps in the case of isolated stations. Furthermore, in spite of the statements of interested engineers to the contrary, chain programs can be successfully broadcast on the same wave length. It is certainly practical and feasible for the chain programs to be broadcast upon a very few wave lengths. Certainly their stations should not be permitted to broadcast chain programs on high power and each on a separate wave length; it would probably be proper to permit the broadcasting of chain programs on the maximum power in cases where such station is so far removed from other stations broadcasting the chain program that such power is required to send its program out to the listeners dependent upon such station for reception; where such high power is necessary, it should be granted to the stations nearest to the audience to be served. Stations broadcasting their chain programs should not be permitted to use more power than is necessary to serve the listeners within the area of such station who can not be satisfactorily served by other stations broadcasting the same chain program. In

other words, even from the standpoint of getting the National Broadcasting Company chain program to the various sections of the country, there is no occasion for granting to such stations a monopoly of power or desirable and cleared channels, not to speak of the fact that such an allocation would deprive stations broadcasting independent programs of the share to which they are entitled, and which the public are entitled to hear. A proper limitation on power to be used by the chain stations can be imposed either in the first instance, or at least when they are broadcasting chain programs.

In conclusion, I wish to repeat that the equalization amendment embraced in the recent radio act is constructive and not destructive. If such provision is carried into effect in accordance with its terms, purpose, and spirit, as I assume you gentlemen are endeavoring to do, we will have a very much improved broadcast situation throughout the country. The equalization provision is workable
321 from a scientific standpoint, as well as from the stndpoint of fairness and justice. As was well stated in last Sunday's issue of the New York Herald Tribune "there is general agreement here that the new law can eventually be worked out to the satisfaction of the entire country."

I wish to again express my appreciation of the invitation to submit any suggestions to your commission which might occur to me. The foregonig suggestions are given for your consideration, and I trust that they may be received in the spirit in which given.

Yours sincerely,

(Signed) EWIN L. DAVIS.

APPENDIX E (8).

Memorandum Submitted by Broadcasters, Manufacturers, and Dealers at Hearing on April 23, 1928.

The Federal Radio Commsision held an informal meeting Monday, April 23, 1928, in order to give broadcasters, radio manufacturers, and dealers an opportunity to present their views regarding changes in the broadcasting structure in keeping with the amendment to the radio act of 1927.

For its guidance the commission desired to get opinions on the subject from all thoughtful persons familiar with the radio problem. Several unable to attend the meeting submitted their views in writing.

The discussion was confined to basic principles as laid down by the amendment of the radio act of 1927, requiring equal distribution of radio facilities throughout the country, and had no bearing whatever on which stations should be selected for the new broadcasting structure. Merits of individual stations were not considered.

At that hearing representatives of the National Association of Broadcasters, the Radio Manufacturers' Association, and the Federated Radio Trades Association submitted the following memorandum:

"Through the courtesy of the Federal Radio Commission, we, the National Association of Broadcasters, the Federated Radio Trades Association, and the Radio Manufacturers' Association, hereby express our views regarding the difficult problems before the commission in an effort to assist in the solution of those problems. Committees representing the three associations met in Chicago on April 16, 17, and 18, first separately and later jointly, and unanimously agreed to the submissoin of the following memorandum:

"These three associations believe that the purpose of any reallocation of broadcasting licenses under the amended law is the ultimate establishment of conditions of interference free radio reception in which the maximum number of listeners throughout the Nation will have the maximum possible choice of broadcast program service with the maximum possible signal strength. Any steps which may be taken to comply with the requirements of the radio law as amended should look toward the establishment of such improved conditions with the minimum of delay.

"It appears in the present state of the art that the readjustment necessary to improve radio service and to comply with the radio law as amended should include as its ultimate goal a reduction in the number of stations.

"Although we realize that in making such a readjustment it is necessary to consider the problem as a whole because of the effect of stations on each other, nevertheless, the new allocations should be made so as to bring about at the out-

set as small a change in existing allocations as is consistent with the ultimate attainment for the listening public of such advantages as are possible within the limits of the existing law.

"We recognize that engineering advice is essential in the establishment of a comprehensive broadcasting plan. It is not our purpose, however, to discuss the plan which has been submitted by a committee of engineers, but realizing that there are other considerations which should be taken into account, we have prepared our observations to this end.

"Being in immediate contact with the economic and commercial aspects of the situation, we offer this memorandum from that viewpoint, not as a completely evolved plan but as a suggested method of procedure. This method contemplates the early establishment of a broadcasting system in conformity with the engineering basis which has been explained to the Federal Radio Commission.

322 "In order to comply with the radio law as amended in so far as it requires an equal distribution of broadcasting stations among the five zones there are, generally speaking, three typical methods of procedure:

"1. To take as the basis (or, to adopt a convenient term, 'common denominator') for such compliance a number of stations which would permit the maximum of heterodyne-free channels consistent with the varied requirements of service to the radio-receiving public; for example, 110 per zone, or a total of 550. This method would require the elimination of a large number of stations.

"2. To take as the common denominator one-fifth of the total number of station licenses, which, according to our information, is approximately 700 stations, or 140 stations per zone. This would permit the application of the 'borrowing clause' of the amendment to the detriment of the fourth zone only and to the advantage of the other four zones.

"3. To take as the common denominator the number of stations now licensed in the zone having the greatest number of stations, which, according to our information, is the fourth zone, with 208 stations. This would give the hypothetical total of 1,040 stations. This or any other plan contemplating an increase in the number of stations should not be considered for many reasons.

"We favor the second of the above methods of procedure, with an approach to the first as best calculated to achieve the ideal ultimately to be realized, as soon as time and practical considertions permit. The outline of the first two methods of procedure is set forth in Exhibit A.

"In order to comply with the radio law as amended in so far as it requires an equal distribution of power among the five zones, the common denominator as to power for each zone should be not less than one-fifth of the total power now authorized under existing licenses and construction permits. Any increase over this amount should be cautiously applied to stations on relatively cleared channels and in such manner as not to increase heterodyne interference.

"The application of the three common denominators to the existing situation is outlined in Exhibit B, the three common denominators being:

"1. Two hundred and fifty kilowatts for each zone.

"2. One-fifth of the total power now authorized under existing licenses for each zone.

"3. The maximum power now licensed in the zone having the largest allotment of power under existing licenses, which is approximately 218 kilowatts in the first zone.

"In order to comply with the radio law as amended in so far as it requires an equal distribution of frequencies the basis for equalization should be taken as the average of the present zone frequency assignments which, according to our information, is 66.

"Inasmuch as the existing frequency assignments naturally classify themselves into five groups, namely—

"Frequencies assigned to one zone only,

"Frequencies shared by two zones,

"Frequencies shared by three zones,

"Frequencies shared by four zones,

"Frequencies shared by five zones,

assignments of frequencies to zones should be based upon this classification.

"In making zone frequency assignments those existing assignments which are recognized as being outstanding in the public interest, convenience, and necessity should not be materially changed in the initial approach to the establishment of an ideal zone frequency equalization.

"Illustrative of the thought above expressed, a chart (Exhibit C) is submitted which shows an equal allocation of a number of existing assignments to each zone.

"As for the equalization of periods of operation between the five zones, it is our opinion that a maximum quota of hours of operation for each zone should be fixed at a point sufficiently high to take into consideration the maximum requirements of any one zone in the establishment of a character of service that is compatible with public interest, convenience, and necessity.

"It is our belief that the licenses of stations which persistently violate regulations covering the operation of stations should be revoked in acordance with the provisions of the Federal radio law.

"Respectfully submitted.

"THE NATIONAL ASSOCIATION OF BROADCASTERS.
"FEDERATED RADIO TRADES ASSOCIATION.
"RADIO MANUFACTURERS ASSOCIATION."

323 EXHIBIT A.

Allocation of Station Licenses in Accordance with the Use of Two Typical "Common Denominators."

Zone I:	Present.	Using 140 as common denominator.	Using 110 as common denominator.
Maine	3	4	3
New Hampshire	2	2	2
Vermont	2	2	1
Massachusetts	21	22	17
Connecticut	5	8	7
Rhode Island	9	4	3
New York	55	60	47
New Jersey	25	19	17
Delaware	1	1	1
Maryland	5	8	6
District of Columbia	3	3	2

	Present.	Using 140 as common denominator.	Using 110 as common denominator.
Porto Rico	1	7	6
Virgin Islands	0	1	1
Total	132	141	113
Zone II:			
Pennsylvania	45	48	38
Virginia	12	13	10
West Virginia	4	8	7
Ohio	29	33	26
Michigan	21	25	20
Kentucky	3	13	10
Total	114	140	111
Zone III:			
North Carolina	4	15	11
South Carolina	1	9	6
Georgia	5	16	13
Florida	13	7	5
Alabama	5	13	10
Tennessee	17	12	10
Mississippi	3	9	7
Arkansas	4	10	8
Louisiana	13	27	21
Oklahoma	10	12	9
Total	75	130	100
Zone IV:			
Indiana	18	17	13
Illinois	67	39	31
Wisconsin	19	16	12
Minnesota	18	14	11
North Dakota	6	3	2
South Dakota	9	4	3
Iowa	24	13	10

Nebraska	17	8	6
Kansas	7	7	6
Missouri	25	19	15
Total	210	140	109
Zone V:			
Montana	6	9	7
Idaho	4	7	5
Wyoming	1	3	2
Colorado	16	13	10
New Mexico	2	5	4
Arizona	5	5	4
Utah	4	6	5
Nevada	0	1	1
Washington	23	20	15
Oregon	15	10	7
California	52	56	43
Hawaii	2	4	3
Alaska	3	1	1
Total	133	140	107

Exhibit B.

Allocation of Power in Accordance with the Use of Three "Common Denominators."

First Zone	Present	250,000	138,000	218,000
Maine	5,350	7,000	3,860	6,100
New Hampshire	1,050	4,000	2,210	3,490
Vermont	110	3,250	1,795	2,830
Massachusetts	20,010	39,000	21,550	34,000
Connecticut	2,100	15,000	8,270	13,100
Rhode Island	2,150	6,250	3,450	5,450
New York	163,250	106,250	57,950	92.600
New Jersey	16,165	34,250	18,900	29,900
Delaware	100	2,000	1,105	1,745
Maryland	6,050	14,500	8,000	12,650
District of Columbia	1,150	5,000	2,760	4,360
Porto Rico	500	12,750	7,030	11,100
Virgin Islands	0	250	138	218
Total	217,985	249,500	137,018	217,543

Second Zone				
Pennsylvania	59,575	86,000	47,500	75,900
Virginia	13,330	22,500	12,400	19,600
West Virginia	660	15,000	8,290	13,100
Ohio	27,595	59,250	32,700	51,600
Michigan	10,475	44,250	24,400	38,600
Kentucky	1,600	22,500	12,400	19,600
Total	113,235	249,500	137,690	218,400
Third Zone				
North Carolina	12,350	26,000	14,350	23,650
South Carolna	90	16,500	9,100	14,400
Georgia	2,520	238,500	15,700	24,900
Florida	7,200	12,250	6,750	10,700
Alabama	1,325	23,000	12,700	20,500
Tennessee	22,990	22,250	12,290	19,400
Mississippi	825	16,000	8,730	13,950
Arkansas	1,865	17,250	9,520	15,050
Louisiana	6,330	17,500	9,650	15,250
Texas	19,815	48,500	22,600	42,300
Oklahoma	11,175	21,250	11,700	18,500
Total	86,485	249,000	133,090	218,600

EXHIBIT B—Continued.

	Present	250,000	138,000	218,000
Fourth Zone				
Indiana	9,565	30,250	16,700	27,600
Illinois	91,940	70,000	37,100	63,900
Wisconsin	7,985	28,000	15,450	25,500
Minnesota	12,295	25,750	14,200	23,500
North Dakota	1,230	6,000	3,310	5,470
South Dakota	2,595	6,500	3,590	5,930
Iowa	29,740	23,250	12,850	20,250
Nebraska	8,470	13,250	7,300	11,550
Kansas	5,000	12,750	7,050	11,100
Missouri	17,865	33,500	18,500	30,600
Total	186,830	249,250	136,040	225,400
Fifth Zone				
Montana	965	15,750	8,370	13,700
Idaho	5,310	11,750	6,750	10,250
Wyoming	500	5,250	2,790	4,580
Colorado	9,810	23,750	13,100	20,700
New Mexico	7,550	8,500	4,520	7,400
Arizona	965	10,000	5,320	8,720
Utah	5,600	11,500	6,120	10,000
Nevada	0	1,750	930	1,525

Washington	11,175	34,750	18,500	30,300
Oregon	6,950	19,750	9,450	15,450
California	33,760	98,500	52,400	86,000
Hawaii	750	6,500	3,430	5,660
Alaska	610	1,250	665	1,090
Total	83,960	249,000	132,375	215,375

325 EXHIBIT C.

The following chart accompanied the proposal of the radio industry submitted Monday, April 23, to the Federal Radio Commission by the National Association of Broadcasters, Radio Manufacturers Association, and Federated Radio Trades Association:

Kilocycles.	I.	II.	III.	IV.	V.
550	2	0	X2	4	0
560	X2	0	0	X1	1
570	X1	0	0	X2	X1
580	1	1	X3	0	1
590	X1	0	0	X1	X1
600	0	0	X2	0	0
610	X1	0	0	0	X1
620	X1	1	2	X3	X2
630	0	0	X1	1	0
640	X1	0	0	0	X1
650	X2	1	X2	X1	1
660	X1	0	0	0	X1
670	0	0	0	X2	1
680	0	X3	0	1	X1
690	C0	0	0	0	0
700	1	X1	0	0	0
710	X1	0	0	1	X1
720	0	0	0	X2	0
730	C0	0	0	0	0
740	0	X2	0	X1	0
750	0	X2	0	1	X2
760	X3	0	X1	1	3
770	X1	0	0	X3	0
780	1	2	X2	0	X1
790	X1	0	0	1	0
800	0	0	0	X1	X1
810	X2	0	0	1	X1
820	0	0	0	X2	X1
830	0	X1	0	0	X2
840	C0	0	0	0	0
850	0	X1	0	1	X1
860	1	X2	X1	0	X1

870	0	0	0	X2	2
880	0	0	X2	2	0
890	0	0	X1	0	1
900	X2	0	X2	4	1
910	C0	0	0	0	0
920	X2	0	0	0	X1
930	2	X1	0	2	1
940	0	0	0	X3	0
950	0	X1	0	0	2
960	C0	0	0	0	0
970	X2	0	0	0	X1
980	1	0	0	X2	0
990	X1	0	1	1	1
1,000	0	X2	0	X1	1
1,010	2	1	X3	1	1
1,020	X3	1	1	3	1
1,030	C0	0	0	0	0
1,040	2	2	X2	X2	1
1,050	X1	0	1	4	X1
1,060	1	X2	0	0	2
1,070	X1	0	1	0	1
1,080	0	X2	X1	1	X1
1,090	1	0	1	X2	X3
1,100	X1	2	X1	3	5
1,110	0	X2	3	X5	3
1,120	3	3	X2	3	1
1,130	3	X1	X2	X1	0
1,140	2	X1	2	X3	4
1,150	1	X4	0	2	X1
1,160	1	0	X2	6	0
1,170	3	X2	0	X1	0
1,180	3	X1	1	X5	1
1,190	0	1	X4	3	1
1,200	0	X5	X5	4	X5
1,210	4	4	X1	10	2
1,220	3	X2	1	4	5
1,230	3	1	X2	2	2
1,240	4	0	0	4	1
1,250	2	2	X3	4	1
1,260	1	X2	5	2	0
1,270	3	X5	2	3	1
1,280	0	5	3	4	2

Kilocycles.	I.	II.	III.	IV.	V.
1,290	3	1	2	4	4
1,300	1	X5	3	2	4
1,310	1	1	5	X1	2
1,320	3	X2	2	4	3
1,330	3	1	X2	2	2
1,340	3	2	2	7	4
1,350	0	3	1	5	1
1,360	1	4	4	X3	3
1,370	3	1	0	1	2
1,380	X2	0	0	5	2
1,390	2	0	3	7	1
1,400	X2	4	0	2	2
1,410	1	2	0	3	1
1,420	5	2	1	1	1
1,430	1	3	2	6	4
1,440	1	2	0	8	1
1,450	5	2	3	1	1
1,460	1	3	2	3	1
1,470	5	1	1	8	0
1,480	0	X1	0	0	0
1,490	4	1	0	4	1
1,500	5	2	0	1	3

EXHIBIT CX.

[Submitted by National Association of Broadcasters, Radio Manufacturers Association, and Federated Radio Trades Association, showing typical distribution of frequencies.]

Kilocycles.	Zone. 1.	2.	3.	4.	5.
550	X	..	X	..	X
560	X	..	..	X	X
570	X	..	..	X	..
580[1]	X	X	X	..	X
590	X	..	X	..	X
600[1]	..	X	X	..	..
610	X	..	..	..	X
620	X	..	X	X	..
630[1]	..	..	X	X	..
640	X	..	..	..	X

650	..	X	X	..	..
660	X	..	..	..	X
670	..	..	..	X	X
680	..	X	X	..	X
690[2]	..	..	..	..	..
700	X	X	..	..	..
710	X	..	..	X	X
720	..	..	..	X	..
730[2]	..	..	..	..	..
740	..	X	..	X	..
750	..	X	..	X	X
760	X	..	X	X	X
770	X	..	..	X	..
326 780[1]	X	X	..	..	X
790	X	..	X	..	..
800	..	..	..	X	X
810	X	..	X	X	..
820	..	..	..	X	X
830	..	X	..	..	X
840[2]	..	..	..	..	..
850	..	X	..	X	X
860	X	X	X	..	X
870	..	..	..	X	X
880[1]	..	..	X	X	..
890[1]	..	X	X	..	..
900	X	..	X	X	X
910[2]	..	..	..	..	..
920	X	..	..	..	X
930[1]	X	X	..	X	X
940	..	..	..	X	X
950	..	X	..	..	X
960[2]	..	..	..	..	..
970	X	..	..	..	X
980	X	..	..	X	..
990	X	..	X	X	X
1,000	X	X	..	X	..
1,010[1]	X	X	X	X	X
1,020	X	X	X	X	X
1,030[2]	..	..	..	..	..
1,040	X	X	X	X	X

[1] Canada.

Kilocycles.	Zone. 1.	2.	3.	4.	5.
1,050	X	..	X	X	X
1,060	..	..	X	X	X
1,070	X	X	X	..	..
1,080	..	X	X	X	X
1,090	X	X	X	X	..
1,100	X	X	X	X	X
1,110	..	X	X	X	X
1,120[1]	X	X	X	X	X
1,130	X	X	X	X	..
1,140	X	X	X	X	X
1,150	X	X	..	X	X
1,160	..	X	X	X	..
1,170	X	X	X	X	..
1,180	..	..	X	X	X
1,190	..	X	X	X	X
1,200	..	X	X	X	X
1,210[1]	X	X	X	X	X
1,220	X	X	X	X	X
1,230	X	X	X	X	X
1,240	X	X	X	..	X
1,250	X	X	X	X	X
1,260	X	X	X	X	..
1,270	X	X	X	X	X
1,280	..	X	X	X	X
1,290	X	X	X	X	X
1,300	X	X	X	X	X
1,310	X	X	X	X	X
1,320	X	X	X	X	X
1,330	X	X	X	X	X
1,340	X	X	X	X	X
1,350	..	X	X	X	X
1,360	X	X	X	X	X
1,370	X	X	..	X	X
1,380	X	X	X	..	X
1,390	X	..	X	X	X
1,400	X	X	..	X	X
1,410	X	X	X	X	X
1,420	X	X	X	X	X
1,430	X	X	X	X	X

[1] Canadian shared.

1,440	X	X	..	X	X
1,450	X	X	X	X	X
1,460	X	X	X	X	X
1,470	X	X	X	X	..
1,480	..	X	X	..	..
1,490	X	X	X	X	X
1,500	X	X	X	X	X
Total	64	60	63	70	60

[1] Canadian shared.
[2] Canada.

Appendix E (9).

Suggestions of Louis B. F. Raycroft, Vice President of the National Electrical Manufacturers Association, Made to the Commission on April 23, 1928.

Two weeks ago, at the invitation of this commission, I came to Washington, on behalf of the radio manufacturers in the National Electrical Manufacturers Association, to be present at the presentation and discussion of a plan for the reallocation of broadcasting stations, which had been submitted by a group of engineers. At that time I was impressed with the necessity of giving the proposed plan careful study from the commercial standpoint, and so suggested to the commission. Since then I have been able to obtain the views of many of the executives of radio companies, particularly those engaged in the manufacture of receiving sets. I have also had the opportunity to personally review the engineers' plan in detail, and I now offer the following comments.

In the first place, I want to say that the commercial interests recognize very fully the great difficulties, technical, practical, and legal, with which the commission is confronted in discharging its obligations to the public and the industry under the amended Federal radio act. The commission may be assured of the earnest support of every responsible interest in the radio industry in successfully resolving these difficulties.

The engineers' plan as submitted to the commission involves certain fundamental ideas which appeal to every one

of us as being entirely reasonable and not subject to any vital disagreement. It sets up for example a definite objective of interference-free radio transmission and reception, equitably distributed throughout the country ,under the specific restrictions of the amended act. It recognizes the desirability of providing exclusive channels for a number of stations, able and willing to acept and dis-
327 charge the large responsibilities which such privileges would incur. Again, it accepts the principle that other stations must be content with an allocation under which their signals will not be interference free, except within restricted areas.

It is in the process of working toward the agreed objective that room is found for helpful suggestions to the commission. I am sure, for example, that a decision to attempt to immediately reach the stated objective would defeat its own purpose. The present broadcasting situation is so widely different that a wisely planned progressive program is the only means through which success may be made certain. An examination of the existing situation will provide the foundation on which to build a program. Of the 693 broadcasting stations in the country to-day, we find 127 occupying 66 channels in zone 1, 119 on 34 channels in zone 2, 103 on 51 channels in zone 3, 210 on 74 channels in zone 4, and 134 on 71 channels in zone 5. While these figures are by no means equal, yet they permit of equalization without too great difficulty, provided the earlier adjustments of number be reasonably balanced with the other factors involved.

In the equalization there are four distinct problems stated in the amendment—equality in the number of licenses, equality in the number of channels, equality in the allotment of time, and equality in station power, between the five zones, and in proportion to the population of the States within the zones. Obviously, the most difficult of these problems is the equality in the number of channels, and it is equally apparent that your program should first provide equality between the zones, before any attempt is made to establish proportionately to State populations within the zones. I can not pass this point without noting with great regret the unfortunate inequality made compulsory by the amendment, under which, for example, Texas, with a popu-

lation of 5,400,000 and an area of over 225,000 square miles, is granted only 3.9 per cent of the national total of channels, licenses, power, and time, while California, with only 4,433,000 population and less than 159,000 square miles, is granted the surprising total of 8.2 per cent of the entire national radio facilities. And it is not as though this was the only unjust discrepancy under an act which pretends to establish equality of broadcasting service. The State of Washington, with less than 1,600,000 population, is granted over 2.8 per cent, while Tennessee, with its much larger population of over 2,480,000, is granted less than 1.8 per cent. And so on.

Not only is the problem of equality in the number of channels the most difficult but from the viewpoint of improving broadcasting service it is the most important. From a practical angle the reallocation of channels is the principal and immediate method by which conditions can be improved. I beg to submit, therefore, the following specific suggestions:

1. An examination of the existing allocations indicates quite clearly that 28 of the 39 stations now authorized to use 5 kilowatts or more are of a character to justify their being considered for exclusive channels. These 28 stations are on channels which could be cleared without great difficulty. There appears to be no present basis for clearing more than this number of channels. Let us say, then, that the first step is to clear these channels, leaving these 28 stations on their present assignments.

2. These 28 stations should be permitted, perhaps even urged, to immediately increase their power to the maximum now employed by any of them in order that they may serve the greatest possible number of listeners.

3. If there are other existing stations not now considered suitable for exclusive channels but which demand such channels, as they can probably be accommodated on the channels to which they are now assigned, perhaps with slightly greater difficulty. In any event if they are found capable of delivering the required service construction permits should be issued and arrangements made to provide a cleared channel when they are ready.

4. In clearing the original 28 channels it will be necessary to reallocate approximately 58 stations. (It is to be noted that since these stations can not be moved geographically,

moving them to new channels will not change zone or State quotas of channels, powers, or number of stations.) The commission should invite any station which must be moved in order to clear a channel and which is in a State now having too many stations or too many channels to discontinue operation voluntarily. Some will comply with this request, and thus reduce the number of channels and licenses in excess of legal quotas.

5. Some stations will refuse to comply with such a request. If their demand to be permitted to continue seems to be justified, then they should be accommodated on some other channel. This should be done by assigning them to a channel now used in the same State but occupied by a more recent licensee, or one giving the poorest service, deviating from frequency, or otherwise obviously the weakest station. If no such station can be found, then the station to be moved must be inserted in a channel with others on divided time.

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6. The 28 stations above referred to occur as follows: I, 5; II, 5; III, 4; IV, 10; V, 3. Zones I, II, III, and V will be entitled to additional cleared channels if it is considered necessary to equalize the cleared channels by zones. The commission should let it be known that these zones can have these additional cleared channels when they can justify them.

7. Of the 90 American channels, after the twenty-eight-odd cleared channels have been deducted, there remain approximately 60, subject to further reduction as time goes on. These 60 channels are for the lower-powered nonexclusive services, which in the present state of the art can not be strictly heterodyne free, except in their local service areas. These should be so adjusted as to equalize the heterodyne interference in all parts of the country, or, in other words, so as to give each station the maximum possible local service area. This is to be done (*a*) by requiring that stations occupying the same channel shall have equal power; (*b*) establishing a minimum distance between stations of each class of power; and (*c*) determining from the stations now assigned to each such channel what the power (and spacing) for that channel is to be in order to require the minimum change in existing assignments. In some cases it will be desirable to allow or require a station to

increase its power in order to avoid changing its channel. The 60 nonexclusive channels should be classified on the above basis and the stations reassigned accordingly.

8. The next and final step will be to refuse to relicense stations which still represent too much power to a State, too many licenses to a State, or too may channels to a State. The stations to be thus discontinued should be those obviously least desirable or those in areas otherwise well served under the limitations of the law. The only alternative is to establish a single channel is the higher frequencies to which such stations may be transferred.

It will be apparent that I have given here only a brief outline of the program which I suggest for your consideration, and yet I believe that the essential features of a program that will meet with support from every interested group have been clearly pointed out. In closing let me state again the absolute necessity for building the new structure out of the present structure. No drastic step to sweep the board clean and start anew can be expected to succeed.

APPENDIX E (10).

Discussion of Proposals by Dr. J. H Dellinger at the Federal Radio Commission Hearing of April 23, 1928.

A number of the discussions offered at the hearing indicated that there has not been adequate understanding of the recommendations submitted to the Federal Radio Commission by the April 6 conference of engineers. This is particularly true of the proposals on broadcast allocations presented by the National Association of Broadcasters, the Radio Manufacturers' Association, etc. The recommendations made by these organizations did not constitute a definite plan. They set forth certain considerations but did not give a procedure for making the necessary allocations of broadcast stations under the radio act of 1928. These proposals will be referred to herein as the "broadcasters' plan."

The broadcasters' plan took definite and detailed account of only two of the four elements which must be equalized under the law, and (what is much more serious) took no account of the relations between the elements. These ele-

ments are frequencies, number of licenses, power, and time. It is only as you come to the relations between the four elements that you reach either the difficulties of the situation or its possibilities. For example, the interrelation between frequency and power is the heart of the problem. It is only by proper adjustment of these two factors with due regard to geographical separations that there can be any hope of reducing interference and making any material improvement in the present chaotic situation. The broadcasters' plan was devoted largely to illustrative di-
329 visions of number of licenses and power. In neglecting the first element, frequency, they sidestepped the real problem. In neglecting time division they overlooked the one possible means of retaining the present number of stations in an allocation which would be relatively free from destructive interference.

With their emphasis upon the possibilities of borrowing licenses and power between States and zones, it was apparent that the broadcasters' plan seeks mainly the retention of the status quo. It is only natural that broadcasters should have their thoughts primarily filled with questions of licenses and of power. Their plan presented little beyond obvious calculations as to rearrangement among States on the basis of various illustrative numbers of licenses and amounts of power. The only definite recommendations were a declaration (1) that approximately 700 stations should be provided for, (2) that the average power should be maintained at some figure at least equal to the present amount, and (3) that the number of changes made in the initial establishment of the new allocation should be kept a minimum. This plea for the status quo was doubtless conceived in a spirit of helpfulness based on a fear of litigations and of changes whose value might not be demonstrable in advance. It nevertheless reveals a serious, and almost total, lack of understanding of the import of the April 6 recommendations of the engineers.

Fortunately the broadcasters' plan contains a proviso that the engineers' recommendations should be followed as far as practicable. They can be followed in full and still bring about the aims covered by the three definite recommendations of the broadcasters' plan just mentioned. Thus they can meet all the aims of the broadcasters and give

them much more in addition. To clear up the present situation, eliminating the station assignments which introduce serious conflicts with the engineers' recommendations, would require a much less radical disruption of the present broadcast situation than is commonly thought. While the three definite aims included in the broadcasters' plan can thus be met, there are some features of their presentation which must be discarded, unless the idea of improvement in the broadcasting situation is abandoned. One of these is the idea of extensive borrowing, where the number of licenses, amount of power, etc., in various States or zones are materially different from the present situation. Such borrowing would increase interference and, furthermore, would be contrary to the law, except on a mere temporary basis. The division into five classes of power included in the broadcasters' plan is furthermore without justification and can not lead to an allocation as free from interference as the three classes of power included in the enginers' recommendations.

The engineers did not present essentially a "plan." They presented considerations or principles which underlie the broadcast allocation and certain recommendations that offer the best application of them that it is possible to work out.

The fatal weakness of the broadcasters' plan in so far as it differs from the engineers' recommendations was revealed by the answer to a question put to one of its proponents during the hearing. The question was asked as to what service could be expected outside of the so-called service area of each station under the plan. The reply was that no service could be expected at a distance and that the plan considered only the local service area around each station. This admits that the plan is no improvement, and claims to be none, over the present situation. Those persons living at points remote from radio stations could expect no service under this plan, just as at present. It is just here that the engineers' recommendations are distinct from any other plans which have been recommended in that the maximum possibility of avoiding heterodyne interference, and thus giving some service at considerable distances beyond the local-service area of each station is provided.

The broadcasters' plan sidesteps entirely the question as to the degree of simultaneous operation of the various stations. This again prevents this plan from being given any serious consideration, for simultaneous operation of several stations on a channel is the crux of the whole problem. Assuming that the plan contemplates all 700 stations operating simultaneously, reference to the data presented by the engineers on April 6 and to the report of the American Engineering Council of March 30, 1927, shows that destructive interference would result. This is particularly true because of the large number of stations crowded into the two smallest zones, Nos. 1 and 2.

Perhaps the chief point of the engineers' recommendations which has been overlooked is the outstanding importance of providing not less than 50 exclusive chan-
330 nels, together with the fact that very much more power can be used on exclusive channels than on shared channels. It is only on exclusive channels that listeners at a distance can receive service. The rural population of the country will be heavily discriminated against unless a large number of exclusive channels are provided. Furthermore, when channels are exclusive there is no necessity of holding their power down to any particular limit. While the engineers' recommendations stated that the limit for the exclusive channels might be 50 kilowatts at the present time, the only power limit need be that fixed by the production of interchannel interference. In other words, it is contemplated that with improvements in the radio art the power used on the exclusive channels may be increased without limit, thus increasing service to the rural population. On this account the recommendation in the broadcasters' plan that power be limited to 10 kilowatts would unnecessarily reduce the service which might be secured under the best broadcast allocation.

In reference to time division, while the engineers' recommendations pointed out its inherently uneconomic character and the difficulties of employing it under the law, they recognized that there will be conditions demanding and even justifying time division. Assuming time divisions aggregating the use of half time by every class B and class A station, and no time divisions for class C stations, there could be a total of 50 class C, 180 class B, and 400 class A

stations under the engineers' recommendations, a total of 630 stations. There would, of course, be some class B stations operating on full time, but there are many cases where local conditions make a station operate on very much less than half time, so an average arrangement of half-time operation could in fact be worked out.

Several speakers at the hearing emphasized that engineering considerations are not the only ones involved, and that other matters, financial problems, local conditions, etc., make some of the engineering recommendations impracticable. While it is true that the problem of broadcast allocation is too complex to be solved by straight engineering calculation, nevertheless its solution can not be right if it disregards any valid engineering principle. An engineering principle is nothing but an organized body of facts affecting a practical situation. An engineering program is a program in which the results of a future practical situation are predetermined from an organized body of facts. The engineers' recommendations regarding broadcast allocations represent the best available organized body of pertinent facts. Any allocation which proceeds counter to the sound principles included in these recommendations will reduce the advantage which the people of the United States could secure in the new allocation.

The fact is, the few objections which have been made to the engineers' recommendations and the occasional accusation of impracticability reveal merely a lack of comprehension of them and a fear that they will lead to a complete upheaval of all the present broadcasting structure. Some study indicates that a relatively minor disturbance of the present structure can produce a considerable degree of conformity to the engineers' recommendations and an astonishing improvement in the broadcast service available to the listeners. It is not to be supposed that the commission will neglect the opportunity, the duty, to make the necessary changes to bring about a tangible betterment of the situation.

Another objection to the engineers' recommendations from the practical viewpoint has been the accusation that it is difficult to convert it from a mere set of statements into a specific allocation. This is far from the truth. The

commission has only to determine which of the available 90 channels are to be assigned to each of the three classes of stations, and a little calculation gives a table of the frequencies, power, etc., available to each State. This having been done, the task of the commission becomes a judicial one. Through a hearing held in each State, or some other procedure, decisions will have to be reached as to which stations are entitled to utilize the broadcasting channels available.

It is believed that broadcasters and others will be more ready to advocate the engineers' recommendations when they understand that they can be put into effect without the feared complete destruction of the present broadcasting set-up. The broadcasters, in fact, are likely to be the principle advocates of the recommendations when they become aware of the superior service their stations can render under a sound engineering allocation.

331 APPENDIX E (11).

Tabulation of Percentages of Radio Facilities Assignable to Each State, Based on 1928 *Population Estimate of the United States Census Bureau.*

Experts employed by the commission made the following tabulation showing the percentages of radio facilities assignable to each State, under the 1928 "Equitable allocation" clause of the radio act, based upon estimates of 1928 population prepared by United States Census Bureau, which gives the total population of the United States as 121,649,342:

First Zone.

Commissioner, O. H. Caldwell.

State.	Population.	Per cent.
Maine	795,000	0.581
New Hampshire	456,000	.333
Vermont	352,428	.258
Massachusetts	4,290,000	3.135
Connecticut	1,667,000	1.218
Rhode Island	716,000	.524
New Jersey	3,821,000	2.795

New York	11,550,000	8.441
Delaware	244,000	0.178
Maryland	1,616,000	1.180
District of Columbia	552,000	.403
Porto Rico	1,299,809	.947
Virgin Islands	26,051	.019
Total	27,385,288	20.000

Second Zone.

Commissioner, Ire E. Robinson.

State.	Population.	Per cent.
Pennsylvania	9,854,000	7.010
Virginia	2,575,000	1.830
West Virginia	1,724,000	1.227
Ohio	6,826,000	4.855
Michigan	4,591,000	3.263
Kentucky	2,553,000	1.830
Total	28,123,000	20.000

Third Zone.

Commissioner, E. O. Sykes.

State.	Population.	Per cent.
North Carolina	2,938,000	2.091
South Carolina	1,864,000	1.328
Georgia	3,203,000	2.283
Florida	1,411,000	1.012
Alabama	2,573,000	1.835
Tennessee	2,502,000	1.782
Mississippi	1,790,618	1.275
Arkansas	1,944,000	1.385
Louisiana	1,950,000	1.389
Texas	5,487,000	3.900
Oklahoma	2,426,000	1.720
Total	28,088,618	20.000

Fourth Zone.

Commissioner, Sam Pickard.

State.	Population.	Per cent.
Indiana	3,176,000	2.372
Illinois	7,396,000	5.530
Wisconsin	2,953,000	2.208
North Dakota	641,192	.479
Minnesota	2,722,000	2.039
South Dakota	704,000	.526
Iowa	2,428,000	1.814
Nebraska	1,408,000	1.053
Kansas	1,835,000	1.372
Missouri	3,523,000	2.638
Total	26,786,192	20.000

332 APPENDIX E (11)—Continued.

Fifth Zone.

Commissioner, H. A. Lafount.

State.	Population.	Per cent.
Montana	548,889	0.975
Idaho	546,000	.970
Wyoming	247,000	.438
Colorado	1,090,000	1.935
New Mexico	396,000	.703
Arizona	474,000	.842
Utah	531,000	.933
Nevada	77,407	.137
Washington	1,587,000	2.818
Oregon	902,000	1.602
California	4,556,000	8.200
Territory of Hawaii (1920)	255,912	.453
Alaska (1920)	55,036	.0983
Total	11,266,244	20.000

333 New Allocation.

During the months of July and August, 1928, the commission, with the assistance of its engineering division, was endeavoring to work out an allocation of broadcasting stations with respect to frequency, power, and hours of operation that would conform as nearly as possible to the requirements of the Davis amendment. Commissioners Caldwell and Pickard constituted a committee for the purpose and Commissioner Lafount participated in their work. The best engineering advice in the country was sought and received. Several different plans were crystallized complete in every detail only to fail to meet the approval of the requisite majority of the commission. Finally, however, an allocation was achieved which met with the approval of four members of the commission. Commissioner Robinson voted against it, adhering to his belief that the Davis amendment was not intended to require a reallocation of the entire broadcasting spectrum to be made at one time, and that the equalization was to be a gradual process of changes which were, in the language of the amendment, to be accomplished only "when and in so far as there are applications therefor." He opposed the plan also because it included what, in his opinion, were excessive power assignments to certain stations.

The first step toward putting the new allocation into effect was the issuance of General Order No. 40 (Appendix A), the terms of which were agreed upon only after a majority of the commission had found themselves in agreement on the application of its terms to the existing stations. This order was issued on August 30, 1928. It represented a combination of the plans which had been suggested to the commission from time to time, together with certain concessions which had to be made to the practical necessities of the situation because of the existing number and character of the broadcasting stations. Forty channels were set apart for stations of sufficient power on cleared channels to give good service to rural and remote listeners. These channels were allocated equally, eight to each zone. This type of service corresponds to the type which was called "national" in the plans submitted to the

commission by expert engineers in April. Thirty-five channels were set aside for stations of power not to exceed 1,000 watts, to be allocated equally among the zones, each channel to be used—with certain exceptions—by not less than two nor more than three stations. Six channels were set aside for use in all five zones by stations of 100 watts or more; five channels were set aside for use in all five zones by stations having not to exceed 1,000 watts; four channels were set aside for use by stations of 5 kilowatts in two or more zones. By a supplementary General Order No. 42 the power of stations on the 40 declared channels was limited to 25 kilowatts, with provision for the use of 50 kilowatts during the next license period in order to determine what interference, if any, would result. Commissioner Robinson urged a limitation to 10 kilowatts.

A majority of the commission believe that this plan is the best which could be devised with due regard to existing conditions. It provides, or at least makes possible, excellent radio reception on 80 per cent of the channels. The few other channels will suffer from heterodyne interference except in a small areal close to each station.

334 The general orders were followed by an announcement of the specific assignments of stations with respect to frequency, power, and hours of operation. This new allocation arranged by States was announced on September 10, 1928, to go into effect on November 11 (Appendix G (1), and was revised on October 16 and 19 (Appendix G (*a* and *b*)). The intervening period was considered necessary in order to give the stations affected ample time to make such changes in apparatus and such tests as may be necessary to meet the new requirements. Provisions was made by General Order No. 45, issued on September 24, for tests on the new frequencies by all stations during the hours between shortly after midnight and morning. The original allocation (revised) is set forth in Appendixes G (1) and G (1 *a* and *b*), the former being a list of stations arranged by States showing their new and old assignments. The latest revised list setting forth the allocation by channels forms Appendix G (2). The announcement was accompanied by a statement explaining its effect and advising stations not satisfied with their assignments of the method for bringing their claims

to the attention of the commission. This statement is set forth in Appendix G (3).

The new allocation was analyzed by Dr. J. H. Dellinger, chief engineer of the commission, in a statement which is set forth in Appendix G (4).

As was to have been expected, there have been a number of complaints against the allocation on the part of particular stations and their adherents. On the whole, however, the complaints have been to date very much less in number than the commission expected. The commission intends to commence hearings on these complaints immediately after October 12, and, if possible, to conclude them prior to November 11. New licenses will be issued corresponding to the allocation and to any changes that may be made as the result of hearings. These licenses are to be effective as of November 11, to terminate on January 31, 1929.

An analysis of the quotas to which the respective States are entitled as to each of the classes of channels, if the Davis amendment is to be applied with mathematical precision, is set forth in Appendix G (5). A certain number of stations were accommodated in the new allocation on the basis of daytime and limited time assignments. General Order No. 41 was issued on September 4, 1928, defining daytime stations.

335 *Federal Radio Commission's Appendix.*

Designated by Appellee and Objected to by Appellant.

At a hearing before the Federal Radio Commission on July 23, 1928, involving the renewal of licenses of approximately 110 broadcasting stations, certain testimony was adduced by four highly-qualified electrical engineers all specialists in the field of radio engineering. A synopsis of this testimony is here set forth in order that the Court may be informed of the physical factors operative in the field of radio communication. The full testimony appears in document No. 119 of the Record.

Testimony of John V. L. Hogan (R. Doc. 119, pages 11-114).

The broadcasting sound by means of radio waves is a method of communication similar to other forms of com-

munication in that three components are required; a transmission system, a conveying medium, and a receiving system.

In radio communication, electro-magnetic forces act as the conveying medium. These forces travel in the form of waves and are generally referred to as "electro-magnetic waves." They have a uniform speed of 186,000 miles (299,820 kilometers) per second. These waves may be distinguished by their length and frequency, their length being inversely proportioned to their frequency. The product of the length of a particular wave expressed in meters and the frequency of that wave per second expressed in kilocycles is equal to the number 299,820. Thus a frequency of 1,000 kilocycles (1,000,000 cycles) per second produces waves 300 meters in length.

Radio Waves are Produced by an Alternating Electric Current.

All radio waves are the result of the flow of an electric current which alternates or oscillates. The frequency of alternation is usually expressed in terms of cycles per second. In radio communication, alternating currents are from 10,000 to 30,000,000 cycles per second and are used to produce these electro-magnetic waves.

336 Broadcasting, as the term is commonly used, requires the use of those waves having a frequency between 550,000 and 1,500,000 per second, which means that alternating currents of corresponding frequencies or cycles are necessary in the production of these waves.

Nature of Sound.

In order to understand the transmission of sound through the use of these waves, it is necessary to examine the physical characteristics of sound. The source of any sound is a body in a state of movement or vibration. The vibrations so produced are transmitted through a medium, usually the air, upon which is imposed this vibratory motion. A sound is "heard" when the auditory nerves are excited by these air vibrations or air waves.

Only air vibrations of certain frequency are audible to man. The extreme range is said to be from 16 to 16,000

vibrations per second and is variable with the individual. The lowest note produced by a piano has a vibration rate of 27 per second; the highest, a rate of 4,096 per second; middle C has a vibration rate of 256.

In most cases, a vibrating object has not only a fundamental vibration rate as in the instances given above, but also secondary vibration rates corresponding to multiples of the fundamental rate. An analysis of the note produced by middle C of the piano discloses vibration rates of 256 per second (the fundamental note) and vibrations of 516, 1,032, 2,064, etc. (the harmonics of the fundamental note). An analysis of vibration set up by the human voice discloses notes of many different vibration periods and in corresponding harmonics.

Problem of Radio Broadcasting.

The problem of radio broadcasting is to produce these air vibrations of audible frequency in an electrical form in order that they may be transmitted to distant points. Radio waves are not air waves but electrical forces and, hence, are not audible. In any event, they are not within the range of audibility, by reason of their extremely high vibration periods.

337 Air vibrations are reproduced in an electrical form by the following method: When a tuning fork, having the pitch of middle C, is set to vibrating, it impresses its vibrations (256 per second) upon the air. To these air waves the human ear is responsive and if these same air waves travel to the microphone of the broadcasting station, an electrical current is produced having the same frequency or period of vibration as the tuning fork. This electrical current is conveyed by wire from the microphone through amplifying tubes which increase the intensity of the current but do not change its frequency. The current finally emerges from the amplifying system as a very intense alternating current, retaining the initial frequency. It is referred to as the "audio frequency current." It is then imposed upon another alternating current of a very high frequency known as the "radio frequency current." The latter current has the capacity to produce a carrier wave which travels in all directions to great distances.

The union of the audio frequency current and the radio frequency current results in a modulated current retaining the characteristics of its components. As it flows through the antenna of the broadcasting station, it produces in space modulated electro-magnetic waves.

Characteristics of Electro-Magnetic Waves.

Although these waves are not tangible, they are genuine force competent to do a substantial amount of work. They travel in all directions with the speed of light. They do not affect the senses. They attentuate or become weaker as the distance from their source increases. They are subject to absorption and, as they travel through space, they are affected by many other factors. At any given point, their intensity may vary from hour to hour, sometimes from month to month, and, certainly, from night to night and from season to season. In general, it may be said that any condition of the earth or the earth's atmosphere that causes variability in their reflection, refraction or absorption, likewise causes variations in their intensity or strength at any given point.

338 Analysis of Modulated Waves.

An analysis of the modulated waves produced by middle C, as above described, shows the existence of waves of three different frequencies. Assuming that the carrier wave, produced by the radio frequency current, has a frequency of 100,000 cycles (1,000 kilocycles), the second and third waves will have frequencies of 100,256 and 99,744 as the result of the modulation. In other words, that frequency represented by the note transmitted is added to and subtracted from the frequency of the carrier wave, resulting in the presence of three waves above mentioned.

In the transmission of a musical program, it is necessary to use the carrier wave for the simultaneous transmission of many notes of given frequencies. The reproduction of an orchestra selection with absolute fidelity, may require the use of practically all the audible frequencies. The carrier wave so modulated would consist of approximately 32,000 frequencies, i. e., double the number of audible frequencies. A program of this nature will

still be heard with a remarkable degree of fidelity if the number of frequencies used is limited to 10,000. A band of frequencies of this number will permit the transmission of a large portion of the vibration within the range of audibility.

If any number of notes are simultaneously translated into electrical currents at the microphone, in the same manner as explained in the case of a note of 256 vibrations, the carrier wave is modulated by all the notes and becomes in reality a band of waves or a band of frequencies.

Only Certain Frequencies are Adaptable for Broadcasting.

In broadcasting, a band of frequencies of 10 kilocycles (10,000 cycles) is utilized. The necessity of using a band of this width or number for the purpose of securing a faithful reproduction of the program transmitted, automatically places a limit on the number of stations that may operate. Within the entire range of frequencies adaptable to radio communication, only a certain portion thereof is of practical use for broadcasting purposes. Those frequencies between 550,000 and 1,500,000 (550 to 1500 kilo-
339 cycles) are known as the broadcast band and are peculiarly adapted for the transmission and reception of program material.

Receiving sets responsive to the frequencies within this band may be designed and manufactured at a relatively small cost. It is difficult and expensive to design receiving apparatus having desirable selectivity and range for frequencies lower than 500 kilocycles. Frequencies higher than 1,500 kilocycles are subject to such great variation in intensity at any given point that reliable broadcasting service cannot be secured by their use.

The usual type of broadcast receiver is designed to accommodate all those waves in the broadcast band and select, from the entire band, those frequencies used by different stations. However, they are not adapted to the reception and selection of frequencies above or below the broadcast band.

Physical and economic factors thus limiting broadcasting to the frequencies between 550 and 1,500 kilocycles, the number of available channels within the band is likewise limited. The necessity of providing for each station an in-

dividual band of 10 kilocycles limits the broadcasting of programs to a total of 96 communicating channels.

The Highest Degree of Fidelity is Not Obtained Through the Use of a 10 Kilocycle Band.

As has been explained above, a 10 kilocycle separation between stations is not sufficient to provide programs of the highest degree of fidelity. The restriction to a band of 10 kilocycles being in fact a compromise with the ideal in order to obtain a maximum number of channels. If any change were to be made in the width of channels for the purpose of providing a better broadcasting service, it would necessarily have to be made by increasing the width and would result in fewer channels.

Number of Stations Limited by Reason of Heterodyne Interference.

In the present stage of development of the radio art, the transmitting apparatus of a broadcasting station is incapable of maintaining a constant frequency. The carrier waves of stations fluctuate in some cases to the extent of 1,000 to 2,000 cycles, although extreme constancy has been obtained by certain stations as evidenced by the
340 observations made by the Bureau of Standards. The carrier waves of many stations of both low and medium power vary in excess of 500 cycles.

This prevalent variation gives rise to a phenomenon known as interference. If two stations operate on the same channel and their carrier waves differ in frequency to the extent of 20 to 30 cycles or more, the interaction of their carrier waves within a receiving set tuned to their channel, create an audible note having a vibration period equal to the difference of the frequencies of the two waves. The intensity of the note depends upon the strength of the waves received. This note, being the result of several forces, is called a heterodyne or beat note and its presence is destructive to program reception. It will appear whenever the degree of separation of the two carrier waves represents a number within the range of audibility. A 10,000-cycle separation produces an audible note but, ordinarily, this is not noticeable to the average listener and causes no

discomfort or distortion of the program. For this reason, a 10-kilocycle separation between the carrier waves and two stations is a reasonable requirement in that it makes possible a maximum number of channels.

Elimination of Heterodyne Interference.

The entire elimination of this type of interference can only be accomplished as a practical proposition by (1) restricting the use of a channel to a single station, or (2) maintaining such a geographic separation between stations using the same channel that the carrier waves of two stations never enter the same territory with sufficient intensity to produce this interference.

Considering the existing equipment of broadcasting stations, the possibility of heterodyne interference must be taken into consideration in the assignment of power and location of two stations operating on the same frequency.

Service Area of Stations in Absence of Heterodyne Interference.

The area over which a broadcasting station gives dependable service is determined, in the first instance, by the power utilized, and, secondly, by the condition of
341 the earth's atmosphere. As has been explained, the service area of a station of a given power varies greatly from hour to hour, from night to night, and from season to season. The greatest variation probably occurs between daylight and darkness. Radio waves travel to much greater distance during the night than during the day. They are more constant during the fall and winter months than during the summer. Other factors influencing the service area may be enumerated as follows: Interference from static, interference from electrical apparatus and interference created by other stations.

By reason of the many factors involved, the definition of "service area" for any given station must be made very flexible. An approximation of the distance over which broadcasting stations will provide reliable service in the absence of interference from other stations operating on the same channel, may be given in relation to transmission conditions existing during the months in which radio is

most used, i. e., from September until March, and during the time of day when radio is most used, i. e., those hours immediately after darkness. It is possible to definitely measure the strength of any transmission at a given point, the unit of measurement universally adopted being a "field intensity unit".

On this basis, service to the listener may be classified into three types, corresponding to the intensity or strength of the transmissions or signals of a station over various areas.

A signal or transmission of 10 field intensity units is ordinarily capable of giving what is fairly called very good service, i. e., service which will satisfy the average city dweller who is located where noises produced by motors and other electrical apparatus must be overcome, in addition to the interference produced by other stations operating on adjacent frequencies.

A signal strength of two field intensity units gives good service within reasonable limits to the suburban dweller because, in his location, there is a lower level of interfering noises.

342 A signal of two-tenths of a field intensity unit gives fair service under rural conditions because of the absence of electrical interference. This service, however, is conditioned on the fact that static is absent.

As has been explained, the area over which a station will give the above described services depends upon the power of that station as well as the many other factors influencing the electro-magnetic waves after they leave the transmitting station. For the present purpose, the effect on the service area of two stations operating on the same channel is not considered.

The following figures indicate the average distances to which stations of given power may provide the three types of service mentioned above. A 50-watt station is competent to produce very good service at a distance of two miles or less. It will produce good service corresponding to two intensity units at a distance of ten miles or less, and it will produce rural service corresponding to two-tenths of a field intensity at 100 miles. (p. 34.)

A 500-watt station will produce very good service at a distance of six miles or less, good service at a distance of

thirty miles or less, and rural type of service at a distance of 300 miles or less. (p. 34.)

A 5,000-watt station will produce very good service over a zone having a radius of twenty miles, good service over a 100-mile radius, and rural service over 1,000 miles. (p. 34.)

A 50,000-watt station will give very good service over a distance of 60 miles or less, good service over 300 miles or less, and rural service over a distance of 3,000 miles. (p. 34.)

A 100-watt station will produce very good service at three miles, good service at fifteen miles, and rural service at 150 miles. (p. 35.)

A 1,000-watt station will produce very good service at nine miles, good service at 45 miles, and rural service at 450 miles.

Low intensities give satisfactory service only in the absence of electrical interference. The figures given above are approximations justified by observation and actual measurements. They are average values. A 500-
343 watt station, for example, will not produce service of the kind described over the distances indicated if it is in a poor location or if the character of the territory, over which its transmissions are sent, is unfavorable. Poor station design will restrict service area. Another 500-watt station, because of better location or better station design, may have a greater service area, than indicated by the above figures. Because the standards of listeners vary, these distances are also subject to variation from a standpoint of each individual. At the best, they are approximated averages giving an indication of what may be considered fair ranges for the several types of services mentioned. If one considers only the factors of power and distance on a theoretical basis, the above figures will be approximately one-half of the theoretical distances. Practical experience, however, makes it necessary to consider the addition of the other factors involved and by including these latter factors, a practical or empirical formula is obtainable.

Service Area Greatly Diminished by the Presence of Another Station.

Areas receiving the transmissions of two stations operating on the same channel, are termed "nuisance areas" whenever the degree of separation of the carrier waves of the two stations is great enough to produce the heterodyne interference, previously described. As has been stated, receiving sets in this area will react to both transmissions.

Nuisance Areas of Stations.

It is impossible to give a fixed nuisance area for a station of a given power applicable to all conditions, but it is possible, as a result of observation and measurement of many signal intensities, to conclude that under average winter-night conditions, one may expect to get severe heterodyne interference within a certain distance of a station of a given power. This interference range may be computed by comparing the field intensities of the two stations at different points. Wherever a station produces a signal having a value of more than seven-hundredths of a field intensity unit, heterodyne interference will result if the transmissions of another station operating on the same frequency enter this area.

344 During the average winter night, the nuisance radius of a 50-watt station is 300 miles; a 100-watt station, 450 miles; a 500-watt station, 900 miles; a 1,000-watt station, 1,350 miles; a 5,000-watt station, 3,000 miles; and a 50,000-watt station beyond the limits of the country. If heterodyne interference is to be avoided during the evening hours of winter, two stations can not be permitted to operate unless their geographical separation is such that the nuisance areas do not overlap.

From the above figures it is apparent that a 5,000-watt station has a nuisance area extending over the entire country. It is possible, however, to accommodate several stations of 1,000-watt capacity or less upon the same frequency or channel without causing appreciable heterodyne interference.

The heterodyne interference is proportional in any case to the product of intensities of the two carrier waves caus-

ing it. Without giving any absolute figure as to the radio of signal intensity that will produce a minimum heterodyne note, it is safe to say that the intensity of the interfering station should be less than one-thousandth and probably less than one-ten thousandth of the intensity of the station to which it is desired to listen. On this basis, the distances given above would product severe interference in the case of rural service; that is to say, the duplication of 50-watt stations 600 miles apart would materially reduce the service area of both stations by reason of the fact that the intensity of seven-hundredths of a field intensity unit is a very substantial proportion of the two-tenths field intensity unit providing such service.

It is apparent from the above that whenever stations are placed upon the same channel without sufficient geographic separation, the service range of each station is greatly reduced. However, there will be near each station a small area in which service may be had in spite of the interference from the distant station. This area will increase as the distance between the two stations is increased. The nearer two stations of the same frequency are placed geographically, the smaller will be the substantial interference free zone around each of these stations. It should be considered that these conditions apply to night
345 time operation and that during the day time stations may use the same frequency with relatively small geographical separation without causing this form of interference.

Full Service Range for Each Station Desirable.

An ideal broadcasting service for this country contemplates stations having their full service range or, at least, a substantial part of that service range. To attain this ideal situation, it is necessary that only one station of 1,000-watt power or greater be allowed to operate upon a given channel. 500-watt stations may be duplicated if they are kept about 1,800 miles apart, and under this arrangement it would be possible for three 500-watt stations to operate on each channel. 100-watt stations should be distributed 900 miles apart, permitting about seveen to the channel. This arrangement will give each station the full service range that is practical.

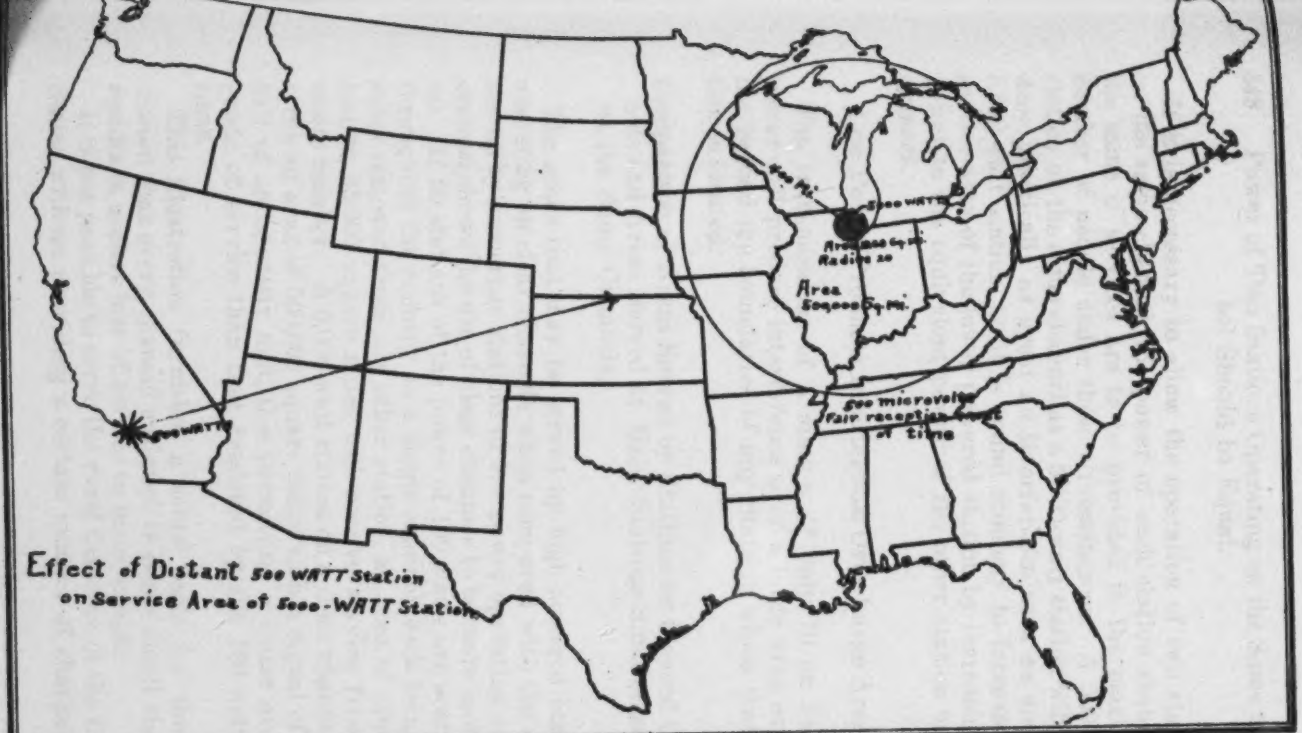
Compromising with the ideal in order to provide for a greater number of stations, it is possible to permit 1,000-watt stations to operate on the same channel if they are kept about 1,800 miles apart; 500-watt stations, 1,200 miles apart; and 100-watt stations, 600 miles apart.

A further increase in the number of stations results in a decrease in the service range of all stations. Such a reduction is in reality bad economy when it is considered that a facility is being wasted by reason of interference. An increase in the number of stations operating on a given channel reduces the service range of each station on that channel to such an extent that the combined service area of all stations is much less than the service area of a single station.

Effect of Heterodyne Interference on Service Area.

A striking illustration may be given of the effect of heterodyne interference by taking an example of the 5,000-watt station operating at Chicago on an interference-free channel and comparing its service area when so operating with its service area when another station of 500 watts is operated in Los Angeles, a distance of 2.000 miles. The transmissions of the 5,000-watt station on a clear channel will cover 400 miles with a signal strength of five-tenths of a field intensity unit at this distance. A signal strength
346 of this amount will give very satisfactory service in the rural districts. The same signal within a 100-mile radius of the station will be equal to two field intensity units. On this basis the people in an area of half-a-million square miles will receive satisfactory service from this station. If, however, a station of 500 watts is permitted to operate on the same frequency in Los Angeles, the interference created reduces the service area of the Chicago station to 1,260 square miles. If the station in Los Angeles is increased from 500 to 5,000-watt power, the service area of the Chicago station will be reduced to a 15-mile radius representing a service area of 750 square miles. The following chart illustrates the effect on service area of two stations, one of 5,000-watt power located at Chicago, the other of 500-watt power located at Los Angeles, as given in the foregoing statement.

(Here follows map, marked page 347)



Effect of Distant 500 WATT Station
on Service Area of 5000-WATT Station

No. 4870
General Electric Company,
Appellant
vs.
Federal Radio Commission

No. 4871
The People of the State of New York
Appellants
vs.
Federal Radio Commission

No. 4880
General Electric Company,
Appellant
vs.
Federal Radio Commission.

348 Power of Two Stations Operating on the Same Channel Should be Equal.

If it is necessary to allow the operation of two stations on the same channel, the power of each station should be the same if services are to be provided to the maximum number of people under these circumstances. A 500-watt station on the same channel as a 5,000-watt station will produce practically as great an interference area as another 5,000-watt station, so it is sound economy to increase the service area of the lower powered station by increasing its power to the equivalent power of the other station on the channel.

Low Power Produces Interference Over Large Areas.

The transmissions of a station of only 10 or 15-watt power will produce interference over a large area extending beyond the boundaries of any State in which that station is located.

Comparison of Areas Served by Stations on Cleared Channels and Areas Served by Many Stations Simultaneously on the Same Channels.

The areas that may be served by high-powered stations operating on clear channels when compared with the areas served by numerous stations of low power operating on one channel shows the use of clear channels to be more economical. If 50 stations of the power of 100 watts are scattered throughout the country on a single channel, each being 200 miles removed from any other station, an area of approximately 35,000 square miles will receive service from the entire number. A 5,000-watt station on a clear channel will serve an area of 500,000 square miles with a signal of one-half of an intensity unit, this permitting a better average grade of service than that rendered by the 100-watt stations.

This illustration furnishes a sound basis for the conclusion that every channel assigned to many small stations results in useless loss of service to many people.

It is not possible to serve the rural listeners of the United States without providing a certain number of channels for

stations of comparatively high power. Many wide areas, sparsely populated, can not be reached without the use of clear channels by stations having a power of 5,000 watts or more.

349 It is recognized that in order to provide local service and local programs demanded by the public, it is necessary to establish channels for stations of moderate power, namely, of 1,000, 500 and 100 watts and assign stations on these channels with proper regard for geographic separation in order to minimize interference.

Interference from Stations on Adjoining Channels.

Another type of interference must be taken into consideration in assigning frequencies to stations in the same state or city. This interference results by reason of deficiencies of existing radio sets. A radio receiver of the sort used by most listeners, when tuned to a certain station, will receive not only the signals of that station but also the signals of other stations operating on adjacent channels, if the intensity of the signals of the latter stations are sufficiently strong. This is due to the fact that receivers do not select only a band of 10 kilocycles but receive frequencies on either side of this band. This broad selection is necessary in order that all frequencies in the 10 kilocycle channel may be received with approximately equal intensity.

Cross Talk.

If a person is located half-way between two stations, at such a distance that both can ordinarily be heard, and one station is 10 kilocycles removed from the other, it is possible to hear either one at will. If the receiving set is nearer one station this latter station gives a much stronger signal, and certain amount of cross talk will be apparent, i. e., in pauses in the program of the station having the greatest signal strength at the particular point, the program of the station on the adjacent frequency will be heard with more or less distinctness. For this reason, two stations should not be permitted to operate in the same locality on adjoining frequencies.

If there is a separation of 20 kilocycles between stations, there is a very substantial ratio of signal intensities

through which the weaker stations can be tuned in. If the selectivity of a receiver is increased to a high degree in order to exclude other frequencies the quality of the program is destroyed because such a receiver will also eliminate the higher notes and many of the harmonics of other notes coming from the station to which it is tuned.

350 Due to characteristics of receivers a signal of low power will be heard over only a small portion of the dial while a signal of greater power will be heard over a corresponding greater portion of the dial. The strength of the signal that is being received affects receiver selectivity and, therefore, a more powerful signal appears over a larger portion of the dial than a weaker signal.

On cross examination this witness was asked how his formulas with respect to service areas and nuisance areas were derived and the following reply was made: "We have an empirical formula which is based upon work, first done by Hertz and which has since been conducted by many investigators, probably hundreds in number. It is not a theoretical formula but is a practical formula, which relates to observations that have been made over literally thousands upon thousands of measurements. It is based upon that, and it is the best general relation the engineers have been able to obtain. It does not purport to cover every case because of the variations that I have spoken about, but it does purport to be and is so far as I know the best relation which can be stated generally."

Testimony of Dr. J. H. Dellinger.

A synopsis of the testimony of Dr. J. H. Dellinger, for twenty-one years a physicist at the Bureau of Standards in the Department of Commerce and now Chief of the Radio Section of the Bureau of Standards, and Chief Engineer of the Federal Radio Commission, follow:

Doctor Dellinger testified that he was present while the testimony of John V. L. Hogan was being given; that the approximate figures given by Hogan with reference to signal strength of stations, the creation of nuisance areas, etc., are correct; that he had cooperated with Hogan in the calculation of these figures; that they apply to night time reception during the principal radio months of the year; and in all other cases the distances are not so great; that the

figures are conservative in that they give minimum distances, (pp. 108-110); that the comparative areas served by stations of various power as given by Hogan are correct. (p. 111)

351 The formulas relative to distances and signal intensity are operative under good conditions, i. e., at times when a signal goes out without material energy absorption. At all other times there is a great absorption and the distances reached by stations distant are less than the values given. (p. 113)

The results that would follow the operation of a 500-watt station at Los Angeles and a 5,000-watt station in Chicago using the same assigned frequency would be a heterodyne interference in the range of both stations of sufficiently great order that the interference produced thereby would be appreciable in a considerable part of the service area that each station would otherwise have if no other station were on the same frequency. There would be a considerable area around each station which would receive satisfactory service, such area being less than it would be if there were no heterodyne interference. There would be a greater area given actual service by one station than by both.

Smaller stations can furnish a service to a very restricted area around them, even though the same frequency is assigned to many other stations throughout the country. Unquestionably, there are numerous cases where their service over that small area is of value. The possibilities of furnishing such service without destructive interference were fairly clearly indicated in the engineers' report which has already been placed before the Commission.

If two stations of 5,000-watts each operate at the same time on the same channel, one in New York and one in Los Angeles, then a farmer in Nebraska with a good receiving set may at times hear one station, when its transmission comes in with sufficient intensity, if the signals of the other stations are absent because of different transmission conditions existing between the listener and the latter station. The heterodyne distance range of a station is about thirty times its service area if its service area is considered as that area covered by a signal intensity of two millivots per meter (two field intensity units).

352 The ratio of heterodyne interference distance to signal distance is not increased by an increase in

power if the stations responsible for the heterodyne are all increased by the same factor.

There appears to be no promising means of increasing service area other than increasing power or diminishing heterodyne interference unless it is possible to accompany this by the synchronization of stations or the delivery of more intense signals by improving the modulation. (p. 134)

A greater area is served by one 50,000-watt station than by the aggregate number of small stations with the same total power. (p. 137)

353 *Testimony of C. M. Jansky, Jr.*

This witness is Associate Professor of Radio Engineering of the University of Minnesota and a Consulting Engineer, having acted in the latter capacity for such organizations as the U. S. Bureau of Standards, the U. S. Signal Corps, the Geophysical Researche Corporation, and others.

The witness states that he was present during the time the testimony of the witness Hogan was being given and that the testimony as to the approximate extent of various types of service areas and nuisance areas with reference to stations of different amounts of power, were the results of calculations in which he had cooperated, and which are correct as approximations.

The width of a channel occupied by radio broadcasting stations is definitely determined by the highest modulated frequency present in the program being broadcast, assuming that the transmitter is designed to handle this frequency. The range of frequencies necessary in order that there may be a faithful reproduction of a program depends upon the range of frequencies to which the ear will respond and this varies with individuals but may be said to extend from 30 cycles per second to possibly some figure well above 10,000 cycles.

Transmission systems designed for the reproduction of high grade musical programs should be designed to accommodate modulating frequencies of at least 8,000 cycles. Broadcasting stations so designed would occupy channels 16,000 cycles wide. On this basis there would be approximately 60 channels available between 550 and 1,500 kilocycles. It has been found, however, that limiting the transmission system to modulating frequencies which do not

exceed 5,000 cycles is a workable arrangement although it does not provide for as faithful reproduction as would be desirable. If broadcasting stations are so designed that only frequencies below 5,000 cycles are transmitted then the width *of* occupied by each station will be 10,000 cycles and the frequency channel separation between carriers could be made 10,000 cycles.

354 On the basis of a 10,000-cycle separation between carrier frequencies there are 96 broadcast channels available between 550 and 1,500 kilocycles assuming the terminal frequencies to be used as carriers.

Based on studies made by witness in mid-western States, namely, North Dakota, South Dakota, and Minnesota, approximately 60 percent of the receiving sets in this area are outside the daylight service area of broadcasting stations. This means that the owners of these sets will rely entirely upon the night-time programs and that these are obtainable from stations several hundred to a thousand miles distant.

Under these conditions the assignment of several stations on the same channel for simultaneous operation is likely to completely destroy for 60 percent of the population mentioned above the benefits of broadcasting service, this being due to the heterodyne interference caused by the operation of the two stations. So far the physical limitations which do not permit the existence at one location of stations using adjacent frequencies are fundamentally due to the characteristics of the radio receiving sets as they are built today. These sets are particularly sensitive to the frequencies for which they are tuned. Thus a set tuned to the frequency of 990 kilocycles receives a signal of that frequency at its maximum strength. For frequencies on either side the sensitivity of the receiver falls off rapidly. Since broadcasting programs require the reception of a band of 10,000 frequencies (10 kilocycles), it is apparent that a very selective set will not respond with the same sensitiveness to all the frequencies in this band. This fact is shown graphically by the middle figure of the following chart.

355 In order to secure a faithful reproduction of the progress, it is, therefore, necessary to broaden the set, the effect of this being to admit all those frequencies

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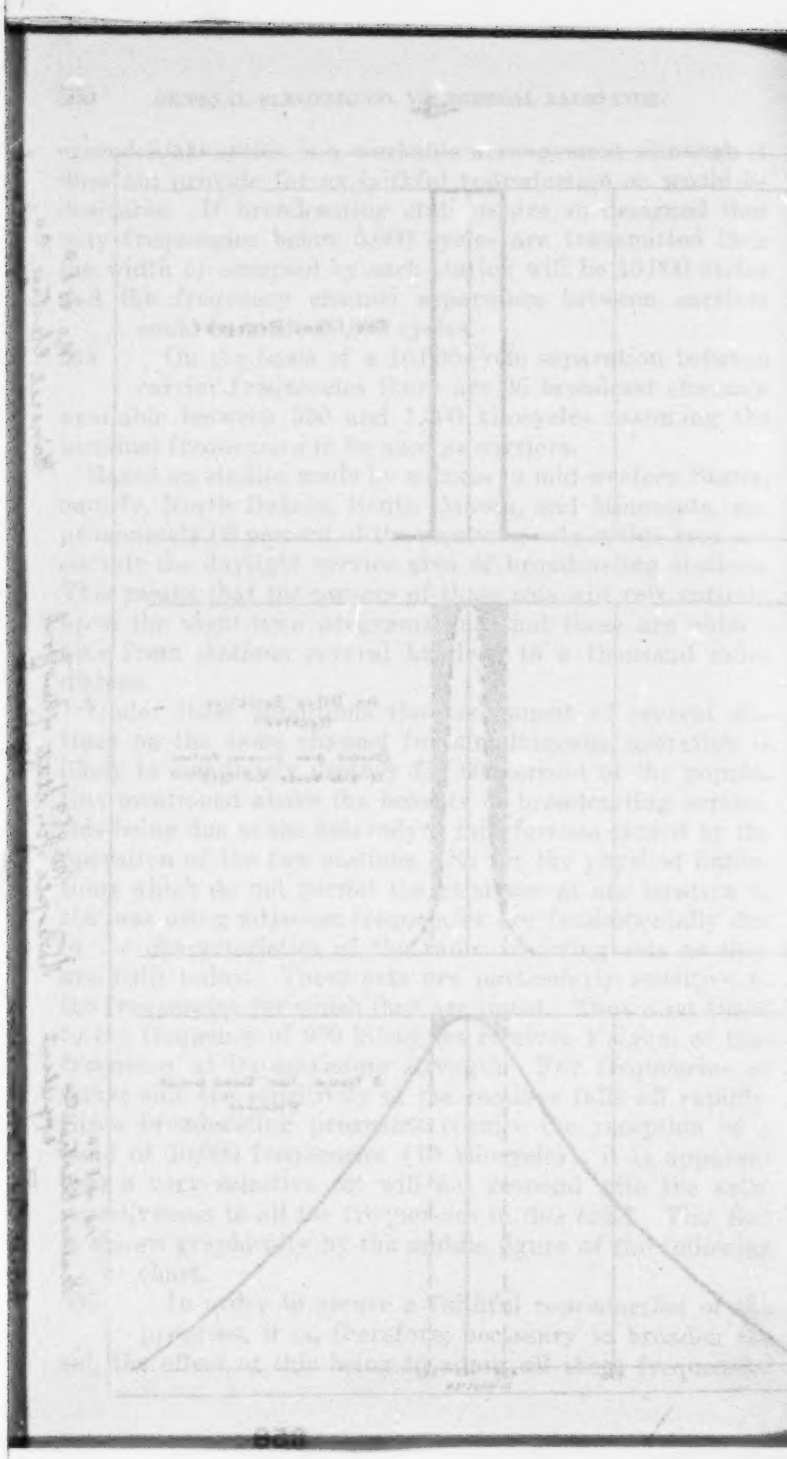
Atlantic Gen. Hosp. of New York
Appellants
vs
Federal Radio Commission

No. 4170
General Electric Co
Appellant
vs
Federal Radio Commission



in the ten-kilocycle band above referred to, without appreciable loss of power. The effect of thus broadening the receiving set leads to undesirable results for the reason that transmissions of stations occupying adjacent channels are admitted. These transmissions on either side of the particular band to which the receiver is tuned may have sufficient strength to completely destroy the signal of the station to which the receiver is tuned. (See bottom figure in chart indicating reception of transmissions 10 kilocycles removed from frequency desired.)

As is shown by the top figure on the chart the ideal receiver excludes all frequencies except those within the ten-kilocycle band and admits all frequencies within that band with equal intensity.

(Here follows diagram, marked page 356.)

357 The location of a station in a city, even though it may not be powerful, is bound to produce a relatively high field intensity close to it. This field intensity will produce interference with receiving sets which are tuned to channels adjacent to that of the interfering station. The distance of the transmitter from the receiving set is a more important factor in determining field intensity than power; and listeners in a city will receive interference when operating their receiving sets on adjacent channels to a greater extent than they would if the stations were not high-powered and located outside the city. A station will produce excessively strong signals in its immediate vicinity even though it may be of relatively low power. These signals are objectionable to listeners near the station for the reasons given above.

The following chart represents the field intensities of two stations, one located in the center of Chicago and the other located approximately thirty miles distant. The station thirty miles distant operates on a power of 25,000 watts, this producing a field intensity of approximately ten millivolts per meter (ten field intensity units) over the Chicago area represented in the chart, the area of cross-hatching indicating the even distribution of this power.

The area covered by diagonal lines represents the intensity of the signals of the 1,000 watt station located in the

heart of Chicago and shows this intensity to be 250 millivolts per meter (250 field intensity units) in the area immediately surrounding the station. This intensity diminishes within a radius of two miles to approximately ten millivolts per meter (ten field intensity units). That portion of the area of Chicago receiving the signals of the 1,000-watt station at high intensity, is unable to utilize those channels adjacent to the channel upon which the 1,000-watt station is operating, by reason of the fact that the receivers respond to the high intensity signals over a large portion of the dial. Where the intensity being received is approximately ten field intensity units or less this is not the case and stations operating on adjacent channels will not be blanketed.

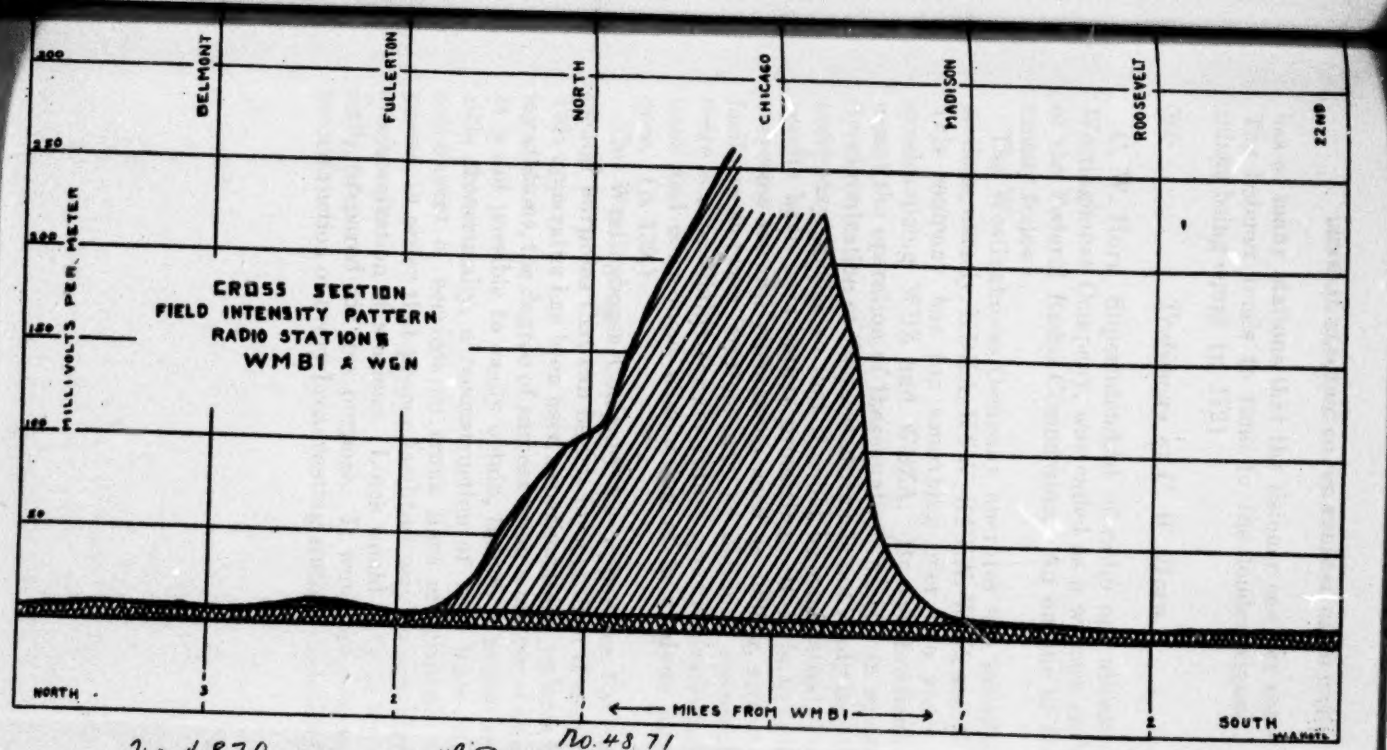
(Here follows diagram, marked page 358.)

359 Many persons in many localities throughout the middle west who listen to stations on the Atlantic Coast and in the southern part of the United States and to a limited extent to stations on the Pacific Coast, have their enjoyment of a program seriously impaired by heterodyne interference. Where two stations are on one frequency and heterodyne interference is caused, this interference only destroys reception on the one frequency.

Assuming that there are thirty-five broadcasting stations with a power of from 15,000 to 50,000 watts, scattered over the United States, a listener in the United States with the average five-tube receiving set, located at the greatest possible distance from any one of the thirty-five stations, on a particular night might be able to hear from 15 to 20 stations. Averaged over a number of nights for a two weeks' period, he would probable be able to hear the most of them. (167-168)

The phenomena of fading does not have a great deal to do with the number of stations which can be put on a particular channel. (p. 169)

The entire problem of serving the rural listener, who is removed from broadcasting stations by a considerable distance is a tremendous one and it is never satisfactory. One of the reasons why people in the vicinity of New York tune in only on local stations, is the fact that New York



No. 4870
General Electric Co
Appellant
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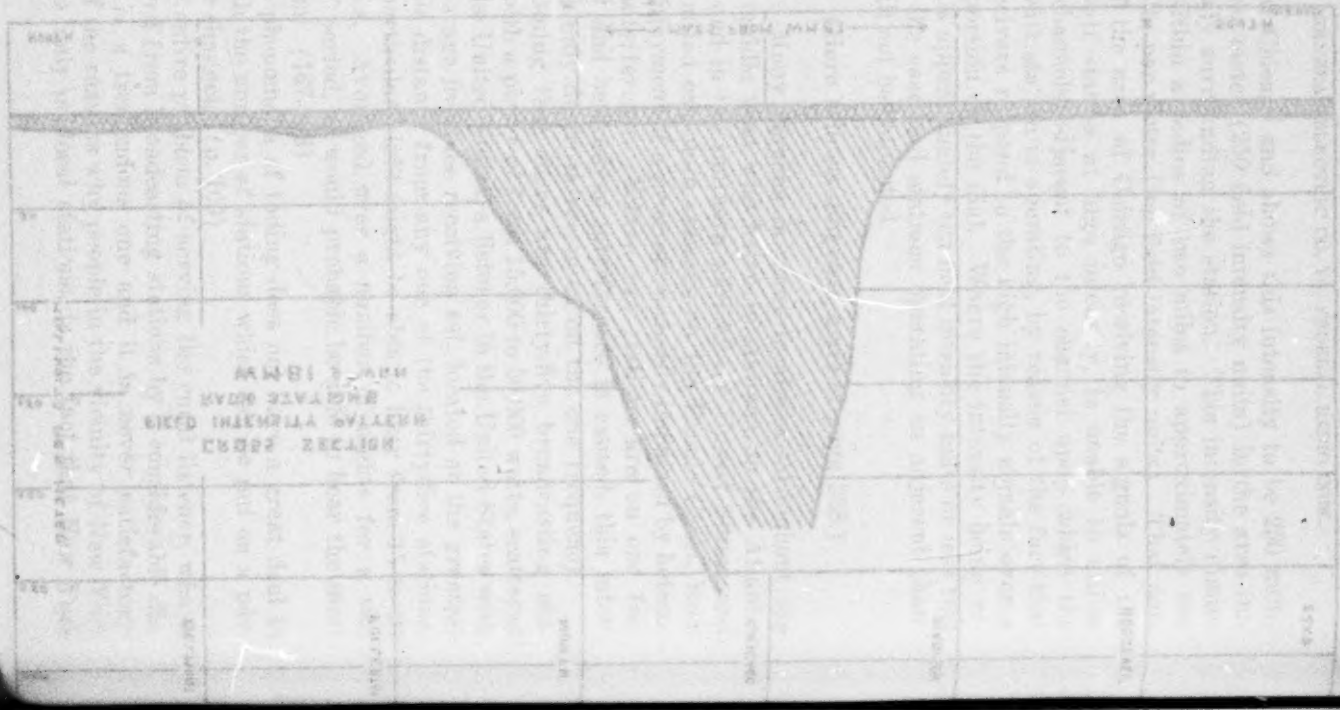
No. 4871
The People of the State of New York
Appellants
vs
Federal Radio Commission

and No. 4880
General Electric Co Appellee
vs
Federal Radio Commission



has so many stations that the listener can get none other. The listener tends to tune to the louder signals, other things being equal. (p. 172)

360 *Testimony of C. W. Horn.*

C. W. Horn, Superintendent of radio operations of the Westinghouse Company, was called as a witness on behalf of the Federal Radio Commission. An outline of his testimony follows:

The Westinghouse Company operates five broadcasting stations, namely, KDKA, KYW, KFKX, WBZ, and WBZA. This company has for something over two years been synchronizing WBZ and WBZA. By synchronization is meant the operation of these stations exactly in resonance. Synchronization at the present time is not ready to put into every day service so that it could be guaranteed, but the results have been rather promising. If it is possible to overcome natural phenomena such as fading, and if wire facilities between stations can be obtained economically, there is a possibility for the future synchronization of stations and consequent elimination of heterodyne interference. (p. 139.)

The Westinghouse Company has apparatus for experimental purposes that can be put in operation if necessary. This apparatus has been used experimentally on broadcasting stations, the degree of success being a matter of opinion. It is not possible to easily obtain, though it might be possible theoretically, a reconstruction of wire lines and reassignment of services on trunk lines of telephone companies, in order that proper facilities may be provided for synchronization of stations. Lines would have to be especially prepared for this purpose. It would also mean the reconstruction of every broadcasting station. (pp. 139-142.)

361 In the Court of Appeals of the District of Columbia.

No. 4870.

GENERAL ELECTRIC COMPANY, Appellant,

v.

FEDERAL RADIO COMMISSION, Appellee.

Motion to Dismiss Appeal of General Electric Company, Appellant.

Now comes the Federal Radio Commission, appellee in the above-entitled proceeding, and moves that the said appeal be dismissed. The appellee assigns the following grounds in support of said motion:

1. This, the Court of Appeals of the District of Columbia, has no jurisdiction to hear or entertain said appeal because the appellant did not file with said Court notice in writing of said appeal and of the reasons therefor within twenty days after the decision complained of was effective, as required by Section 16 of the Radio Act of 1927.

2. This Court has no jurisdiction to hear or entertain said appeal because the appellant did not serve a certified copy of said appeal and of the reasons therefor within twenty days after the decision complained of was effective.

3. This Court has no jurisdiction to hear or entertain said appeal because it does not appear from the supposed "notice in writing of said appeal" filed by the appellant herein, what decision of the Federal Radio Commission is complained of, nor does the nature of such decision appear.

362 4. This Court has no jurisdiction to hear or entertain said appeal because it does not appear from the supposed "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, what decision of the Federal Radio Commissoin is complained of, nor does the nature of such decision appear.

5. This Court has no jurisdiction to hear or entertain said appeal because it does not appear from the supposed "notice in writing of said appeal," filed by the appellant herein, that the decision complained of was either a re-

fusal of an application for a construction permit, or a refusal of an application for a station license, or a refusal of an application for the renewal of an existing station license, or a refusal of an application for modification of an existing station license, or a revocation of license, as required by Section 16 of the Radio Act of 1927.

6. This Court has no jurisdiction to hear or entertain said appeal because it does not appear from the supposed "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, that the decision complained of was either a refusal of an application for a construction permit, or a refusal of an application for a station license, or a refusal of an appliction for the renewal of an existing station license, or a refusal of an application for modification of an existing station license, or a revocation of license, as required by Section 16 of the Radio Act of 1927.

7. This Court has no jurisdiction to hear or entertain said appeal because, as appears from the supposed "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, said appeal is in reality from rules and regulations of the Commission contained in General Order No. 40 of the Commission, dated August 30, 1928, and effective October 1, 1928. Under Section 16 of the Radio Act of 1927, no appeal can be taken to this
363 Court from a rule or regulation of the Commission and furthermore, the appeal in the instant case was not taken within twenty days after the decision of the Commission adopting said rules and regulations became effective.

8. This Court has no jurisdiction to hear or entertain said appeal because, as appears from the supposed "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, if the appeal be construed as being from the decision of the Commission on October 12, 1928, denying the appellant's application for modification of license dated October 4, 1928, the said application is by its own terms improper, defective, and in violation of the rules and regulations of the Commission, and in particular of Sub-paragraph A of Paragraph 4 of the Commission's General Order No. 40, and the Commission had no alternative but to deny it. The Commission is required to grant

hearings under Section 11, and appeals may be taken by applicants whose applications are refused, under Section 16, only when the issue of whether the granting of an application would serve public interest, convenience or necessity is raised by such application.

9. This Court has no jurisdiction to hear or entertain said appeal because, as appears from the supposed "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, the appellant by filing a second application for modification of license dated November 3, 1928 (which application is now pending before the Commission and has not been acted upon) has waived any right to question, complain of, or appeal from, the decision of the Commission on October 12, 1928.

364 10. This Court has no jurisdiction to hear or entertain said appeal because, as appears from the supposed "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, the supposed decision complained of was on a matter which was not at the time covered by any application filed by the appellant, and as to which no decision has ever been rendered by the Commission; that the matter is covered only by applications filed by the appellant since the date of said supposed decision, which applications have not yet been passed upon by the Commission.

11. The appeal should be dismissed because, as appears from the supposed "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, the appellant is attempting to bring into question in this Court, for review and determination, the Commission's action or non-action in at least five separate and legally unrelated matters which cannot be joined in one appeal.

12. The appeal should be dismissed because the supposed "notice in writing of said appeal of the reasons therefor," filed by the appellantt herein, is improper, in form and in violation of the requirement of Section 16 of the Radio Act of 1927, in that, in addition to the defects above noted it consists chiefly of supposed evidence and argument which have no place therein.

FEDERAL RADIO COMMISSION,
By LOUIS G. CALDWELL,
Its General Counsel.

365 *Notice to Appellant.*

Frank J. Hogan, Esq.,.
Attorney for Appellant,
Colorado Building,
Washington, D. C.

Please take notice that the foregoing motion is today being filed in the Court of Appeals of the District of Columbia, in the above entitled cause; and that on December 3, 1928, at the opening of the Court and as soon thereafter as counsel may be heard, we shall move the said Court of Appeals for an Order in accordance with said motion.

LOUIS G. CALDWELL,
General Counsel Federal Radio Commission, Appellee.

Washington, D. C., November 27, 1928.

Acknowledgment of Service.

Service of a copy of the foregoing motion and of the notice attached thereto is acknowledged this 27 day of November, 1928.

FRANK J. HOGAN,
By JOHN W. GUIDER,
Attorney General Electric Company, Appellant.

366 [Endorsed:] 4870. Court of Appeals of the District of Columbia. The General Electric Company, Appellant, v. Federal Radio Commission, Appellee. Ct. 12-1-28. Motion to Dismiss Appeal. Louis G. Caldwell, General Counsel, Federal Radio Commission. Court of Appeals District of Columbia Filed Nov. 27, 1928. Henry W. Hodges, clerk.

367 In the Court of Appeals of the District of Columbia.

No. 4870.

GENERAL ELECTRIC COMPANY, Appellant,

v.

FEDERAL RADIO COMMISSION, Appellee.

Motion to Strike Appellant's "Notice of Appeal and Reasons Therefor" and the Several Portions Thereof.

Now comes the Federal Radio Commission, appellee in the above-entitled proceeding and, saving and reserving to itself all its rights with respect to its motion to dismiss said appeal now pending before this Court, move as follows:

1. That the document filed by appellant herein entitled "Notice of Appeal to the Court of Appeals of the District of Columbia and Reasons Therefor," be stricken from the files.

2. That so much of said document as follows the heading "Reasons for Appeal" together with the so-called certificate, acknowledgment of service, verification, notice to the Federal Radio Commission and all other documents including all exhibits be stricken.

3. That all of said document following the heading "Reasons for Appeal," except the first three paragraphs thereof, the verification of Stephen H. Philbin and all papers including exhibits attached to said document be stricken.

4. That the verification of Stephen H. Philbin and all papers including exhibits attached to said "Notice of Appeal to the Court of Appeals of the District of Columbia and Reasons Therefor," be stricken.

368 5. That of the portion of the document following the heading "Reasons for Appeal" all of the matter following respective numbers 1 and 2 therein, be stricken.

6. That all part of the document following the heading "Reasons for Appeal,, that are evidentiary in nature as distinguished from what is required by Section 16 of the Radio Act of 1927, be stricken, including the second sentence following the numeral 4 and simular language.

7. That so much of said document following the heading "Reasons for Appeal" as is concerned with the appellant's

application for renewal of license dated January 14, 1928, and the action of the Commission thereon, be stricken.

8. That so much of said document following the heading "Reasons for Appeal" as is concerned with the applicant's application for renewal dated October 23, 1928, and its application for modification dated November 3, 1928, and all exhibits with reference to either of said applications, be stricken.

The appellee assigns the following grounds in support of said motion:

1. All the grounds recited in appellee's motion to dismiss the appeal herein, now on file in this Court, are hereby incorporated herein and made a part hereof by reference.

2. Appellant's supposed "Notice of Appeal to the Court of Appeals of the District of Columbia and Reasons Therefor" is, and in particular the portions above specified, are in the nature of evidence and do not constitute matters such as is required to be filed by appellant by Section 16 of the Radio Act of 1927; such matter may be adduced by appellant only upon a verified petition for leave to adduce additional evidence, the petition to state the nature and character of such additional evidence.

369 3. The said document filed by appellant, and the respective portions thereof, set forth and have to do with actions or alleged failures to act on the part of the appellee, which cannot be the basis for appeal.

FEDERAL RADIO COMMISSION,
By LOUIS G. CALDWELL,
Its General Counsel.

370 *Notice to Appellant.*

Frank J. Hogan, Esq.,
Attorney for Appellant,
Colorado Building,
Washington, D. C.:

Please take notice that the foregoing motion is today being filed in the Court of Appeals of the District of Columbia, in the above entitled cause; and that on December 3, 1928, at the opening of the Court and as soon thereafter as

counsel may be heard, we shall move the said Court of Appeals for an Order in accordance with said motion.

LOUIS G. CALDWELL,
General Counsel Federal Radio Commission, Appellee.

Washington, D. C., November 27, 1928.

Acknowledgement of Service.

Service of a copy of the foregoing motion and of the notice attached thereto is acknowledged this 27 day of November, 1928.

FRANK J. HOGAN,
By JOHN W. GUIDER,
Attorney General Electric Company, Appellant.

371 [Endorsed:] 4870. Court of Appeals of the District of Columbia. The General Electric Company, Appellant, v. Federal Radio Commission, Appellee. 12-1-28. Motion to Strike Notice of Appeal, etc. Louis G. Caldwell, General Counsel, Federal Radio Commission. Court of Appeals, District of Columbia. Filed Nov. 27, 1928. Henry W. Hodges, clerk.

(4870)

372 In the Court of Appeals of the District of Columbia.

No. 4870.

GENERAL ELECTRIC COMPANY, Appellant,

v.

FEDERAL RADIO COMMISSION, Appellee.

Motion to Vacate Order Entered Herein on November 9, 1928.

Now comes the Federal Radio Commission, appellee in in the above-entitled proceeding and, saving and reserving to itself all its rights with respect to its motion to dismiss said appeal now pending before this Court, moves that the order entered herein on November 9, 1928, be set aside

and vacated. The appellee assigns the following grounds in support of said motion.

1. This, the Court of Appeals of the District of Columbia, has no jurisdiction to hear or entertain said appeal.

2. The supposed "notice in writing of said appeal and of the reasons therefor," does not disclose any decision of the Commission which is susceptible or subject to an order of stay or of supersedeas or of any other remedial prerogative writ in aid of appellate jurisdiction which this Court has power to issue.

3. The order of this Court entered herein on November 9, 1928, is in effect the granting by the Court to the appellant of a license to use and operate an apparatus for the transmission of communications by radio in interstate and foreign commerce, although under the Radio Act of 1927, such a license must be obtained from the appellee, and although the appellee has granted to said appellant
a license having terms and conditions other than
373 those authorized by said order of this Court.

4. Decisions of the appellee refusing to grant an application for a construction permit, or refusing to grant an application for a station license, or refusing to grant an application for the renewal of an existing station license, or refusing to grant an application for the modification of an existing station license are not, and none of them is, susceptible or subject to an order of stay, or of supersedeas, or of any other prerogative writ in aid of appellate jurisdiction which this Court has power to issue.

5. The said order of November 9, 1928, deprives a large portion of the radio listening public, and particularly that portion residing in the Fifth Zone, of radio broadcasting service to which it is entitled.

6. As disclosed by said "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, the rights of the appellant are too doubtful, uncertain and unlikely to be upheld by this Court, to justify said order of November 9, 1928.

7. The said order of November 9, 1928, was entered as the result of a motion by appellant in violation of the rules of this Court, in that (a) said motion was not in writing and (b) no notice thereof, written or otherwise, was

ever served upon appellee until about one and one-half hours prior to the time at which said motion was used.

FEDERAL RADIO COMMISSION,
By LOUIS G. CALDWELL,
Its General Counsel.

374 *Notice to Appellant.*

Frank J. Hogan, Esq.,
Attorney for Appellant,
Colorado Building,
Washington, D. C.:

Please take notice that the foregoing motion is today being filed in the Court of Appeals of the District of Columbia, in the above entitled cause; and that on December 3, 1928, at the opening of the Court and as soon thereafter as counsel may be heard, we shall move the said Court of Appeals for an Order in accordance with said motion.

LOUIS G. CALDWELL,
General Counsel Federal Radio Commission, Appellee.

Washington, D. C., November 27, 1928.

Acknowledgment of Service.

Service of a copy of the foregoing motion and of the notice attached thereto is acknowledged this 27 day of November, 1928.

FRANK J. HOGAN,
By JOHN W. GUIDER,
Attorney General Electric Company, Appellant.

375 [Endorsed:] 4870. Court of Appeals of the District of Columbia. The General Electric Company, Appellant, v. Federal Radio Commission, Appellee. Motion to vacate stay order. Louis G. Caldwell, General Counsel Federal Radio Commission. Court of Appeals, District of Columbia. Filed Nov. 27, 1928. Henry W. Hodges, clerk.

376 In the Court of Appeals of the District of Columbia.

No. 4880.

GENERAL ELECTRIC COMPANY, Appellant,

v.

FEDERAL RADIO COMMISSION, Appellee.

Motion to Dismiss Appeal or General Electric Company, Appellant.

Notice to Frank J. Hogan, Esq., attorney for General Electric Company, Appellant:

Please take notice that on Wednesday, December 19, 1928, at the hour of 10 o'clock A. M. or as soon thereafter as counsel may be heard, I shall appear before the Court of Appeals of the District of Columbia, in behalf of the appellee and in support of appellee's motion herein.

—— ——,

Attorney for the Federal Radio Commission, Appellee.

Acknowledgment of Service.

Receipt of a copy of the foregoing written notice and motion, is acknowledged this 17th day of December, 1928.

FRANK J. HOGAN,
J. W. G.,
Attorney for General Electric Company, Appellant.

377 [Endorsed:] 4880. In the Court of Appeals of the District of Columbia. No. 4880. General Electric Company, Appellant, v. Federal Radio Commission, Appellee. Notice. —— ——, Attorney for the Federal Radio Commission, Appellee. Court of Appeals, District of Columbia. Filed Dec. 17, 1928. Henry W. Hodges, clerk.

378 In the Court of Appeals of the District of Columbia.

4880.

GENERAL ELECTRIC COMPANY, Appellant,

v.

FEDERAL RADIO COMMISSION, Appellee.

Motion to Strike Appellant's "Notice of Appeal and Reasons Therefor" and the Several Portions Thereof.

Now comes the Federal Radio Commission, appellee in the above-entitled proceeding and, saving and reserving to itself all its rights with respect to its motion to dismiss said appeal now pending before this Court, moves as follows:

1. That the document filed by appellant herein entitled "Notice of Appeal to the Court of Appeals of the District of Columbia and Reasons Therefor," be stricken from the files.

2. That so much of said document as follows the heading "Reasons for Appeal" together with the so-called certificate, acknowledgement of service, verification, and notice to the Federal Radio Commission be stricken.

3. That all of said document following the heading "Reasons for Appeal," except the first three paragraphs thereof, the verification of Frank J. Hogan and all papers including exhibits incorporated in said document by reference be stricken.

4. That the verification of Frank J. Hogan and all papers including exhibits incorporated by reference in said "Notice of Appeal to the Court of Appeals of the District of Columbia and Reasons Therefor," be stricken.

379 5. That all parts of the document following the heading "Reasons for Appeal" that are evidentiary in nature as distinguished from what is required by Section 16 of the Radio Act of 1927, be stricken.

6. That so much of said document following the heading "Reasons for Appeal" as is concerned with the appellant's application for renewal of license dated January 14, 1928, and the action of the Commission thereon, be stricken.

7. That so much of said document following the heading "Reasons for Appeal" as is concerned with the applicant's application for renewal dated October 23, 1928, and its application for modification dated November 3, 1928, and all exhibits with reference to either of said applications, be stricken.

The appellee assigns the following grounds in support of said motion:

1. All the grounds recited in appellee's motion to dismiss the appeal herein, now on file in this Court, are hereby incorporated herein and made a part hereof by reference.

2. Appellant's supposed "Notice of Appeal to the Court of Appeals of the District of Columbia and Reasons Therefor" is and in particular the portions above specified, are in the nature of evidence and do not constitute matters such as is required to be filed by appellant by Section 16 of the Radio Act of 1927; such matter may be adduced by appellant only upon a verified petition for leave to adduce evidence, the petition to state the nature and character of such additional evidence.

3. The said document filed by appellant, and the respective portions thereof, set forth and have to do with action or alleged failure to act on the part of the appellee,
380 which cannot be the basis for appeal.

FEDERAL RADIO COMMISSION,
By —— ——,
Its General Counsel.

381 [Endorsed:] 4880. In the Court of Appeals of Columbia. No. 4880. General Electric Company, Appellant, v. Federal Radio Commission, Appellee, Motion to Strike Appellant's "Notice of Appeal and Reasons Therefor and the several Portions Thereof. Louis G. Caldwell, General Counsel, Federal Radio Commission. Court of Appeals, District of Columbia. Filed Dec. 17, 1928. Henry W. Hodges, clerk.

382 In the Court of Appeals of the District of Columbia.

No. 4871.

THE PEOPLE OF THE STATE OF NEW YORK, Appellant,

v.

FEDERAL RADIO COMMISSION, Appellee.

Motion to Dismiss Appeal of the People of the State of New York, Appellant.

Now comes the Federal Radio Commission, appellee in the above-entitled proceeding, and moves that the said appeal be dismissed. The appellee assigns the following grounds in support of said motion:

1. This, the Court of Appeals of the District of Columbia, has no jurisdiction to hear or entertain said appeal because, as appears from the "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, said appeal is from a supposed decision or determination of the Federal Radio Commission "In the matter of the application of General Electric Company for modification of license issued to Station WGY, Schenectady, New York." The appellant has no such interest in such supposed decision or determination as to entitle appellant to appeal to this Court, is not given any right to appeal under the Radio Act of 1927 as amended, and does not come within the description of persons entitled to appeal contained in Section 16 of that Act.

2. This Court has no jurisdiction to hear or entertain said appeal because it does not appear from the supposed "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, what decision of the Federal Radio Commission is complained of, nor does the nature of such decision appear.

383 3. This Court has no jurisdiction to hear or entertain said appeal because it does not appear from the supposed "notice in writing of said appeal and of the reasons therefor," filed by the appellant herein, that the decision complained of was either a refusal of an application for a construction permit, or refusal of an application for

a station license, or a refusal of an application for the renewal of an existing station license, or a revocation of license, as required by Section 16 of the Radio Act of 1927.

4. This Court has no jurisdiction to hear or entertain said appeal because a "license issued" by the Commission is not a decision of the Commission from which an appeal can be taken to this Court under Section 16 of the Radio Act of 1927.

FEDERAL RADIO COMMISSION,
By LOUIS G. CLADWELL,
Its General Counsel.

384 *Notice to Appellant.*

Henry S. Manley, Esq.,
Attorney for Appellant, People of the State of New York,
Albany, N. Y.:

Please take notice that the foregoing motion is today being filed in the Court of Appeals of the District of Columbia, in the above entitled cause; and that on December 3, 1928, at the opening of the Court and as soon thereafter as counsel may be heard, we shall move the said Court of Appeals for an Order in accordance with said motion.

LOUIS G. CALDWELL,
General Counsel Federal Radio Commission, Appellee.

Washington, D. C., November 27, 1928.

Affidavit of Service.

Louis G. Caldwell, being first duly sworn on oath, says and deposes that he is General Counsel for the Federal Radio Commission, Appellee herein, and that he served a copy of the foregoing motion and of the notice attached thereto on Appellant, The People of the State of New York, by mailing the said copy of motion and notice, by registered mail, on November 27th, 1928, addressed to Henry S. Manley, Attorney for said Appellant, in the care of the Attorney General of the State of New York, at Albany, N. Y.

LOUIS G. CALDWELL.

Subscribed and sworn to before me this 27 day of November, 1928.

MAGDALENA GALE,
Notary Public, District of Columbia.

385 [Endorsed:] 4871. Court of Appeals of the District of Columbia. No. 4871. Postponed till hearing on merits. The People of the State of New York, appellant, v. Federal Radio Commission, appellee. Motion to Dismiss Appeal. Louis G. Caldwell, General Counsel, Federal Radio Commission. Court of Appeals, District of Columbia. Filed Nov. 27, 1928. Henry W. Hodges, clerk.

Endorsed on cover: Federal Radio Commission. No. 4870. General Electric Co., appellant, vs. Federal Radio Commission, and No. 4871. The People of the State of New York, appellants, vs. Federal Radio Commission. Court of Appeals, District of Columbia. Filed Nov. 9, 1928. Henry W. Hodges, clerk. And No. 4880. General Electric Co., appellant, vs. Federal Radio Commission. Court of Appeals, District of Columbia. Filed Nov. 30, 1928. Henry W. Hodges, clerk.

379 In Court of Appeals of the District of Columbia

No. 4880

GENERAL ELECTRIC COMPANY, APPELLANT

v.

FEDERAL RADIO COMMISSION, APPELLEE

Motion to dismiss appeal of General Electric Company, appellant

Filed December 17, 1928

Now comes the Federal Radio Commission, appellee in the above-entitled proceeding, and moves that the said appeal be dismissed. The appellee assigns the following grounds in support of said motion:

1. This, the Court of Appeals of the District of Columbia, has no jurisdiction to hear or entertain said appeal because the appellant did not file with said court notice in writing of said appeal and of the reasons therefor within twenty days after the decision complained of was effective, as required by section 16 of the radio act of 1927.

2. This court has no jurisdiction to hear or entertain said appeal because the appellant did not serve a certified copy of said appeal and the reasons therefor within twenty days after the decision complained of was effective.

3. This court has no jurisdiction to hear or entertain said appeal because, as appears from the supposed "notice in writing of said appeal and the reasons therefor," filed by the appellant herein, the supposed decision complained of was not a refusal of any application filed by the appellant, within the meaning of section 16 of the radio act, 1927.

380 4. This court has no jurisdiction to hear or entertain said appeal because, as appears from the supposed "notice in writing of said appeal and the reasons therefor," the decision upon which appellant bases its appeal is not an appealable decision within the purview of section 16 of the radio act, 1927.

FEDERAL RADIO COMMISSION,
By LOUIS G. CALDWELL,
Its General Counsel.

[File indorsement omitted.]

* * * * * * *

381 In Court of Appeals of District of Columbia

GENERAL ELECTRIC COMPANY, APPELLANT
vs.
FEDERAL RADIO COMMISSION
No. 4870, October term, 192

AND

PEOPLE OF THE STATE OF NEW YORK, appellants
vs.
FEDERAL RADIO COMMISSION
No. 4871, October term, 192

Order granting stay

The motion for a stay of proceedings pending the determination o the appeals in the above-entitled causes was submitted to the consid eration of the court by Messrs. S. H. Philbin, Frank J. Hogan, an Henry S. Manley, of counsel for appellants, in support of motion, an by Mr. Frank D. Scott, attorney for the appellee, in oppositio thereto.

On consideration whereof, it is by the court this day ordered tha a stay be, and the same is hereby, granted, and that until the furthe order of the court Radio Station WGY of the applicant-appellan be, and it is hereby, permitted to operate full time on channel 79 kilocycles.

Per Mr. CHIEF JUSTICE MARTIN.

NOVEMBER 9, 1928.

382 In Court of Appeals of District of Columbia

Monday, December 3rd, A. D. 1928

* * * * * * *

GENERAL ELECTRIC COMPANY, APPELLANT
vs.
FEDERAL RADIO COMMISSION
No. 4870

GENERAL ELECTRIC COMPANY, APPELLANT
vs.
FEDERAL RADIO COMMISSION
No. 4880

AND

THE PEOPLE OF THE STATE OF NEW YORK, appellants
vs.
FEDERAL RADIO COMMISSION
No. 4871

Minute entry

The motions to strike, to vacate the stay order, and to dismiss Nos. 4870 and 4871 were argued by Messrs. Louis G. Caldwell an

B. M. Webster, jr., in support of motions, and by Mr. Frank J. Hogan in opposition thereto.

The argument on the merits in the above entitled causes was commenced by Mr. Charles E. Hughes, attorney for the appellant in Nos. 4870 and 4880, and was submitted on brief by Mr. Henry S. Manley, attorney for the appellant in No. 4871, and was continued by Mr. Louis G. Caldwell, attorney for the appellee.

383 In Court of Appeals of District of Columbia

Tuesday, December 4th, A. D. 1928

* * * * * * *

GENERAL ELECTRIC COMPANY, APPELLANT
vs.
FEDERAL RADIO COMMISSION } No. 4870

AND

GENERAL ELECTRIC COMPANY, APPELLANT
vs.
FEDERAL RADIO COMMISSION } No. 4880

Minute entry

The argument on the merits in the above-entitled causes was continued by Mr. Louis G. Caldwell, attorney for the appellee, and was concluded by Mr. Frank J. Hogan, attorney for the appellant.

On motion of Mr. Frank J. Hogan the parties are allowed twenty days to prepare an agreed statement of the case, with leave to file additional briefs on the merits; and the appellant is allowed ten days to file brief in opposition to the motions to strike, to vacate stay, and to dismiss.

384 In Court of Appeals of District of Columbia

No. 4870

GENERAL ELECTRIC COMPANY, APPLICANT-APPELLANT
v.
FEDERAL RADIO COMMISSION, APPELLEE

Supplemental motion to dismiss appeal of General Electric Company, appellant

Filed Feb. 21, 1929

Now comes the Federal Radio Commission, appellee in the above-entitled proceeding, and renews its motion filed herein on November 27, 1928, to dismiss the said appeal. In addition to the grounds

assigned in said motion as set forth in the printed transcript of record herein at pages 364 to 366, the commission assigns the following grounds in support of said motion:

I

As is shown by the said transcript of record at pages 88 to 95, the said appeal involves a decision of the commission made on October 12, 1928, with reference to an application filed by appellant on January 14, 1928, seeking renewal of a license issued by the commission to appellant on November 1, 1927, which license, as extended from time to time, expired on November 11, 1928.

If the commission in its decision on said application had taken the most favorable action which appellant claims on this appeal the commission should have taken, the commission would have decided to issue, and would have issued, to appellant a license authorizing full-time operation on the frequency of 790 kilocycles with 50,000 watts power and covering a period beginning November 11, 1928, and expiring on January 31, 1929.

385 The period which would have been covered by such a license having expired on January 31, 1929, the question as to whether or not the commission should have issued such a license and the question as to whether the commission acted rightly and within its lawful powers in issuing the license which was actually issued (i. e., authorizing limited time operation on the frequency of 790 kilocycles with 50,000 watts power and covering the said period from November 11, 1928, to January 31, 1929) have become moot questions and no actual rights or interests of any party to this appeal are now involved.

II

Section 3 of an act continuing for one year the powers and authority of the Federal Radio Commission under the radio act of 1927, and for other purposes, approved March 28, 1928, provides that—

"Prior to January 1, 1930, the licensing authority shall grant no license or renewal of license under the radio act of 1927 for a broadcasting station for a period to exceed three months * * *."

By section 11 of the radio act of 1927 the commission is required in all cases to make a determination as to whether or not public interest, convenience, or necessity would be served by the granting of any application for a license or for a renewal of license filed pursuant to the act.

If the commission in its decision on appellant's said application for renewal filed January 14, 1928, had taken the most favorable action which appellant claims on this appeal the commission should have taken, and if, in issuing the license requested by appellant, had issued it to cover the maximum period permitted by law, the license thus issued would have expired on February 11, 1929—i. e., three months after November 11, 1928.

That period having expired there can not lawfully be issued a renewal license unless and until the commission has, upon a proper application for renewal, determined anew that public interest, convenience, or necessity would be served by the granting thereof.

386 The court may not make this determination for the commission, but, being confined to a review of the decision from which the appeal was taken, is faced with the dilemma of either reviewing a decision the alteration or revision of which will have no effect on the present rights of the parties or of dismissing the appeal because the case presents a moot question.

FEDERAL RADIO COMMISSION,
By LOUIS G. CALDWELL,
General Counsel.

387 Notice to Frank J. Hogan, Esq., attorney for General Electric Company, appellant.

Please take notice that there has this day been filed the foregoing supplemental motion to dismiss the appeal of the General Electric Company in the above-entitled proceeding.

LOUIS G. CALDWELL,
Attorney for the Federal Radio Commission, Appellee.

WASHINGTON, D. C., *February 21, 1929.*

Acknowledgment of service

Receipt of a copy of the foregoing written notice and motion is acknowledged this 21st day of February, 1929.

FRANK J. HOGAN,
Attorney for General Electric Company, Appellant.
N. J. P.

388 [File indorsement omitted.]

389 In Court of Appeals of District of Columbia

No. 4880

GENERAL ELECTRIC COMPANY, APPLICANT-APPELLANT

v.

FEDERAL RADIO COMMISSION, APPELLEE

Supplemental motion to dismiss appeal of General Electric Company, appellant

Filed Feb. 21, 1929

Now comes the Federal Radio Commission, appellee in the above-entitled proceeding, and renews its motion filed herein on December 17, 1928, to dismiss the said appeal. In addition to the grounds assigned in said motion, referred to at page 373 of the printed trans-

cript of record herein and which is substantially the same as the motion printed at pages 364 to 366 of the printed transcript of record herein, the commission assigns the following grounds in support of said motion:

I

As is shown by the said transcript of record at pages 88 to 95, the said appeal involves a decision of the commission made on October 12, 1928, with reference to an application filed by appellant on January 14, 1928, seeking renewal of a license issued by the commission to appellant on November 1, 1927, which license, as extended from time to time, expired on November 11, 1928.

If the commission in its decision on said application had taken the most favorable action which appellant claims on this appeal the commission should have taken, the commission would have decided to issue, and would have issued, to appellant a license authorizing full-time operation on the frequency of 790 kilocycles with 50,000 watts power and covering a period beginning November 11, 1928, and expiring on January 31, 1929.

390 The period which would have been covered by such a license having expired on January 31, 1929, the question as to whether or not the commission should have issued such a license and the question as to whether the commission acted rightly and within its lawful powers in issuing the license which was actually issued (i. e., authorizing limited time operation on the frequency of 790 kilocycles with 50,000 watts power and covering the said period from November 11, 1928, to January 31, 1929) have become moot questions and no actual rights or interests of any party to this appeal are now involved.

II

Section 5 of an act continuing for one year the powers and authority of the Federal Radio Commission under the radio act of 1927, and for other purposes, approved March 28, 1928, provides that—

"Prior to January 1, 1930, the licensing authority shall grant no license or renewal of license under the radio act of 1927 for a broadcasting station for a period to exceed three months."

By section 11 of the radio act of 1927 the commission is required in all cases to make a determination as to whether or not public interest, convenience, or necessity would be served by the granting of any application for a license or for a renewal of license filed pursuant to the act.

If the commission in its decision on appellant's said application for renewal filed January 14, 1928, had taken the most favorable action which appellant claims on this appeal the commission should have taken, and if, in issuing the license requested by appellant, had issued it to cover the maximum period permitted by law, the license

thus issued would have expired on February 11, 1929—i. e., three months after November 11, 1928.

That period having expired there can not lawfully be issued a renewal license unless and until the commission has, upon a proper application for renewal, determined anew that public interest, convenience, or necessity would be served by the granting thereof.

391 The court may not make this determination for the commission, but, being confined to a review of the decision from which the appeal was taken, is faced with the dilemma of either reviewing a decision the alteration or revision of which will have no effect on the present rights of the parties or of dismissing the appeal because the case presents a moot question.

FEDERAL RADIO COMMISSION,
By LOUIS G. CALDWELL,
General Counsel.

392 Notice to Frank J. Hogan, Esq., attorney for General Electric Company, appellant

Please take notice that there has this day been filed the foregoing supplemental motion to dismiss the appeal of the General Electric Company in the above-entitled proceeding.

LOUIS G. CALDWELL,
Attorney for the Federal Radio Commission, Appellee.

WASHINGTON, D. C., *February 21, 1929.*

Acknowledgment of service

Receipt of a copy of the foregoing written notice and motion is acknowledged this 21st day of February, 1929.

FRANK J. HOGAN,
Attorney for General Electric Company, Appellant.
N. J. P.

393 [File indorsement omitted.]

394 In Court of Appeals of District of Columbia

THE GENERAL ELECTRIC COMPANY, appellant vs. FEDERAL RADIO COMMISSION	No. 4870
THE PEOPLE OF THE STATE OF NEW York, appellants vs. FEDERAL RADIO COMMISSION	No. 4871
THE GENERAL ELECTRIC COMPANY, appellant vs. FEDERAL RADIO COMMISSION	No. 4880

Opinion

Filed Feb. 25, 1929

Appeals from a decision of the Federal Radio Commission

Before MARTIN, Chief Justice, and ROBB and VAN ORSDEL, Associate Justices.

Mr. Chief Justice MARTIN delivered the opinion of the court.

These appeals are brought under section 16 of the radio act of 1927 (44 Stat. 1169) for a review of a decision of the Federal Radio Commission whereby the commission refused the application of appellant for a renewal of its broadcasting license dated November 1, 1927, for the operation of station WGY located at Schenectady, New York, with permission to use 50 kw. power at a frequency of 790 kilocycles and without limitation as to time of operation.

The novelty of this subject justifies a preliminary reference to the controlling statutes, and also a statement of certain elementary facts drawn in part from the record and in part from common knowledge and public history.

395 The electric impulses which carry sounds when broadcast proceed through the "ether" in waves which move at a distance of 300,000,000 meters per second. The length of the waves may be measured by scientific instruments; likewise, the number of waves produced each second; the latter measurement is called the "frequency" of a station, the former its "wave length." A vast demand is made for the use of the ether for various purposes, of which broadcasting is only one. In the present state of the art the broadcasting band is limited to frequencies extending from 550 to 1,500 kilocycles per second, or, if stated in wave lengths, from 545 to 200 meters. It is conceded that in order to avoid interference between stations when broadcasting at the same time there should be a difference of 10 kilocycles between the frequencies respectively employed by them, otherwise they will interfere with one another and can not be clearly distinguished by the receiver. It follows that there are but 96 practicable frequencies or so-called wave channels employed in broadcasting as at present carried on. Six of these channels have been set aside for the exclusive use of stations in Canada, with the result that only 90 remain for use in the United States. It is agreed that certain broadcasting stations, employing high power, should be recognized as national and be given the exclusive use of appropriate frequency bands in order to avoid interference with one another and with smaller stations; while certain other stations, recognized as regional or local, operate with less power, and for this reason, and because of relative geographical locations, may operate with the same frequency without serious interference with one another. It is well known that the time of day or night which may be allotted to a broadcasting station is a factor of importance in its operation. Owing to the fact that the sun's rays ab-

sorb the broadcasting waves, there is less interference among stations in the daytime than at night. The greater audiences, however, listen in to radio programs between sundown and midnight, and from September until March, and accordingly that period is the most advantageous for operation.

On August 13, 1912, Congress passed "An act to regulate
396 radio communication" (37 Stat. 320), which was the first general law upon the subject, and was in force from its date until the passage of the act of 1927. The art of broadcasting, however, as now understood had not then been developed, as appears from the following extract from the report of the Senate Committee upon the bill:

"The term 'radio communication' instead of 'radiotelegraphy' is used throughout the bill so that its provisions will cover the possibility of the commercial development of radiotelephony. (Sec. 6, p. 14.) Experiments have been made here and abroad for some years in carrying the human voice on Hertzian waves, but with only limited and occasional results. Radiotelephony involves the application of the same principles as are involved in inventions to enable apparatus to select and record accurately one message on a given wave length out of a mass of messages on various lengths. When this latter result has been attained—an unfulfilled promise of some years' standing—radiotelephony will quickly follow. The bill is framed to be adjusted to that improvement when it comes, but in the meantime it deals with the art as it exists to-day."

Senate Report 698, Sixty-second Congress, second session, pp. 5, 7.

The "unfulfilled promise" thus referred to was finally fulfilled, and the first broadcasting station in the United States was constructed in the year 1920. Other similar stations rapidly followed, and owing to the lack of effective regulation under the act of 1912 a chaotic condition known as the "breakdown of the law" ensued, and the usefulness of the art was for the time being seriously impaired.

In order to correct this condition, Congress enacted the act of February 23, 1927, entitled "An act for the regulation of radio communication, and for other purposes" (44 Stat. 1162). This act, which is yet in force, forbids all radio broadcasting in this country except under and in accordance with a license granted under the provisions of the act. For the purposes of the act the United States is divided into five zones, the first zone including the State of New York and
certain other Northeastern States, while the fifth zone includes
397 the State of California and certain other Western States. The act establishes the Federal Radio Commission with power to classify radio stations, to prescribe the nature of the service or class of stations, to assign bands of frequencies or wave lengths to the various stations or classes of stations, and determine the power which each station shall use and the time during which it shall operate, to determine the location of classes of stations or individual stations, and to make such regulations not inconsistent with law as it may deem necessary to prevent interference between stations and to carry

out the purposes of the act, provided, however, that changes in the wave lengths, authorized power, in the character of emitted signals, or in the times of operation of any station, shall not be made without the consent of the station licensee unless, in the judgment of the commission, such changes will promote public convenience or interest or will serve public necessity or more fully comply with the provisions of the act. The act provides that the licensing authority, if public convenience, interest, or necessity will be served thereby, subject to the limitations of the act, shall grant to any applicant therefor a station license provided for by the act; and that in considering applications for licenses, when and in so far as there is a demand for the same, the licensing authority shall make such a distribution of licenses, bands of frequency or wave lengths, periods of time for operation, and of power among the different States and communities as to give fair, efficient, and equitable radio service to each of the same. The act provides that no license for the operation of a broadcasting station shall be for a longer term than three years, and upon the expiration of any license, upon application therefor, a renewal of such license may be granted from time to time for a term of not to exceed three years; and no renewal of an existing station license shall be granted more than thirty days prior to the expiration of the original license. The act also provides that if upon examination of any application for a station license or for the renewal or modification of such a license the licensing authority shall determine that public interest,
convenience, or necessity would be served by the granting
398 thereof, it shall authorize the issuance, renewal, or modification
thereof in accordance with its finding, but if the licensing authority upon examination of any such application does not reach such decision with respect thereto, it shall notify the applicant thereof, and shall fix and give notice of a time and place for hearing thereon, and shall afford such applicant an opportunity to be heard under such rules and regulations as it may prescribe. The act also provides that any applicant for the renewal of an existing station license whose application is refused by the licensing authority (in this case the Federal Radio Commission) shall have the right to appeal from such decision to this court, by filing with the court within twenty days after the decision complained of is effective, notice in writing of the appeal and of the reasons therefor; that the licensing authority shall be notified of the appeal by service upon it, prior to the filing thereof, of a certified copy of the appeal and of the reasons therefor; and within twenty days after the filing of the appeal the licensing authority shall file with the court the papers and evidence presented to it upon the original application for a permit or license, and a copy of its decision thereon and a full statement in writing of the facts and the grounds for the decision as found and given by it; that the court may order the taking of additional evidence in such manner as it may deem proper; that the court shall hear, review, and

determine the appeal upon the record and evidence, "and may alter or revise the decision appealed from and enter such judgment as to it may seem just."

By force of an amending act, known as the Davis Act, passed March 28, 1928 (45 Stat. 373), it is provided that the people of all the zones established by the act of 1927 "are entitled to equality of radio broadcasting service, both of transmission and of reception, and in order to provide said equality the licensing authority shall as nearly as possible make and maintain an equal allocation of broadcasting licenses, of bands of frequency or wave lengths, of periods of time for operation, and of station power to each of said zones when and in so far as there are applications therefor; and shall make a fair and equitable allocation of licenses, wave lengths, time for operation, and station power to each of
399 the States, the District of Columbia, the Territories, and possessions of the United States within each zone, according to population." And that "the licensing authority shall carry into effect the equality of broadcasting service hereinbefore directed, whenever necessary or proper, by granting or refusing licenses or renewals of licenses, by changing periods of time for operation, and by increasing or decreasing station power, when applications are made for licenses or renewals of licenses."

The General Electric Company was first licensed to operate station WGY on February 4, 1922, under the act of 1912. The license was for three months; the power 1,500 watts; the frequency 832.8 kilocycles, corresponding to a wave length of 360 meters. Thereafter during successive periods of three months each the company applied for and was granted renewals of its license, each for the period of three months. By the renewal of May 21, 1923, it was assigned a frequency of 790 kilocycles, which it has had ever since, although at times the same frequency has been concurrently used by other licensed stations. The station power was gradually advanced by successive renewals from 1,500 watts to 50,000 watts, with greater power allowed for experimental purposes. On June 1, 1927, the first license issued to the company under the act of 1927 was received by it. This license was for the period ending July 31, 1927, and granted a frequency of 790 kilocycles, the time to be shared with station WHAZ. On September 15, 1927, a renewal license was issued to the company for the term ending October 14, 1927, frequency 790 kilocycles, power 50,000 watts, time of operation to be shared with station WHAZ. On November 1, 1927, a similar renewal license was granted the company for the term ending December 31, 1927, with the same frequency and power but with unlimited time of operation. The licenses issued under the act of 1927 contained the following term: "This license is issued under and in accordance with the radio act of 1927, and all of the terms and conditions thereof are made a part hereof as though specifically set out in full herein." By

certain general orders of the commission the license dated November 1, 1927, was extended until November 11, 1928, being a period slightly in excess of one year. On January 14, 1928, the company filed
400 an application for a renewal of this license. On October 12, 1928, the commission authorized a revision of the allocation of all broadcasting stations, to take effect on November 11, 1928. By the terms of this revision WGY was granted a frequency of 790 kilocycles and power of 50,000 watts, as before, subject to the limitation that the station was to share this frequency with station KGO, Oakland, California, and was not to operate after sunset at the latter station. This would require WGY to cease operating at the following average times throughout the year, to wit: During the month of January, at 8.17 o'clock; February, 8.48; March, 9.18; April, 9.47; May, 10.17; June, 10.32; July, 10.28; August, 10; September, 9.16; October, 8.32; November, 8.01; December, 7.56. Station KGO, Oakland, California, also belongs to the General Electric Company and operates with a power of 10,000 watts. The commission's order accordingly granted a cleared or exclusive channel of 790 kilocycles for the use of the two stations, granting KGO full time of operation and WGY limited time at night, as aforesaid. Appeals 4870 and 4871 herein were filed on November 9, 1928. Appeal 4880 was filed on November 30, 1928. They present the same issue, and while the earlier appeals may have been premature the last appeal conforms to the rules and is regular.

The appellant rightly contends that the refusal of the commission to renew its license except as modified with respect to the time of operation amounted to a refusal of a renewal within the sense of the act of 1927; and appellant contests the commission's action upon a claim (1) that it wrongfully deprives appellant of its property rights by preventing the full-time operation of station WGY; and (2) that in fact the public convenience, interest, and necessity will be served by renewing appellant's former license with unrestricted time of operation and will not be served by the modification aforesaid.

In respect to appellant's first contention, we may say that under the commerce clause of the Constitution Congress has the power to provide for the reasonable regulation of the use and operation of radio stations in this country and to establish agencies such as the Federal Radio Commission to give effect to that authority.
401 Without such national regulation of radio a condition of chaos in the air would follow, and this peculiar public utility which possesses such incalculable value for the social, economical, and political welfare of the people and for the service of the Government would become practically useless. (Davis, Law of Radio, p. 71; Zollman, Law of the Air, pp. 102, 103.) Reference is made in appellee's brief to a decision by Judge Wilkerson in White v. Johnson, United States attorney, U. S. District Court, Chicago, not yet reported, wherein it is said: "The construction of plaintiff's plant and its operation under the license obtained prior to the act of February

23, 1927, did not create property rights which may be asserted against the regulatory power of the United States if that power is properly restricted." The terms and conditions of the various licenses received and enjoyed by appellant as herein recited also tend to confirm the view that if the time limitation imposed by the commission upon WGY be reasonable and such as to serve the public convenience, interest, or necessity, the order should be sustained; otherwise it should be overruled. Upon this point, however, we feel that the contention of the appellant should be sustained. It appears that station WGY represents a large investment of capital said to be $1,500,000, adventured in part during the pioneer stages of broadcasting, and that the station has been one of the most important development stations in the country; that through its enterprise important and valuable apparatus has been developed which has greatly advanced the art of broadcasting; that it has been one of three stations recognized in this country as development broadcasting stations; and that at present it carries on great experimental work of this character in the public interest. It appears that within a hundred miles of the station there is a very larg[e] population, both urban and rural, estimated to number more than 2,000,000 persons residing in the States of New York, Massachusetts, Vermont, and New Hampshire, who in large part are dependent upon this station for reliable and regular broadcasting service; and that if the station should be silenced during the early hours of the evening, as determined by the commission, the general public within the territory would be seriously prejudiced. In view of the service to the art hitherto rendered by WGY and still continued by it, with the resulting advantage to the public, and in view also of the "public convenience, interest, and necessity" of so great a constituency for full-time operation of the station, it appears that the restriction complained of is not reasonable and should not be enforced.

402

The considerations inducing the action of the commission are fully set out in the record. When the commission commenced its official services under the act of 1927, and undertook to bring order out of the chaos then prevailing in broadcasting, it decided that the public convenience, interest, and necessity required that not more than 40 of the 90 available broadcasting frequency channels should be maintained as cleared channels for the exclusive use of the high-powered national broadcasting stations, and that the remaining 50 channels should be reserved for regional and local broadcasting. Accordingly, under the Davis amendment of March 28, 1928, the commission divided the 40 cleared channels equally among the five broadcasting zones, allocating 8 to each zone. In making this allocation the commission assigned the frequency of 790 kilocycles to station KGO, Oakland, California, as a cleared channel for use by it without time limitation, and assigned the same frequency to station WGY, but forbidding its use by the latter in the evening hours after sunset at station KGO. It is contended in support of this allocation that it is an essential part of a general system for the regulation of broad-

casting throughout the country; that the system was adopted after thorough investigation of the situation with the aid of competent radio engineers; and that the granting of a frequency of 790 kilocycles to WGY without time limitation would destroy the system as a whole, thereby producing great confusion. It is argued also that such an order would have the result of giving the first zone 9 cleared full-time channels instead of 8, which is the number allocated to each of the other zones.

We have but little information concerning station KGO, except that it operates on a power of 10,000 watts, and that it also is owned by the General Electric Company. It must be assumed that
403 WGY operating in the evening with a power of 50,000 watts would at certain distances interfere with the broadcasting of KGO, with its smaller power. It does not appear, however, that this interference would compare in point of public inconvenience with that resulting from the silencing of WGY after sunset at Oakland, nor that full-time operation in the evening by WGY with 790 kilocycles would seriously impair the general scheme of allocations otherwise adopted by the commission. We are convinced that the public interest would be enhanced by granting full time to the latter station.

It is the judgment of this court, therefore, that the appellant, the General Electric Company, was on November 11, 1928, and is now, entitled to receive from the Federal Radio Commission a renewal of its license to operate station WGY upon the same terms as those contained in the license dated November 1, 1928, to wit, upon 790 kilocycles with power of 50 kw., and without time limit of operation; and this cause is remanded to the Federal Radio Commission to carry this judgment into effect. Costs assessed against appellee.

[File indorsement omitted.]

404 In Court of Appeals of District of Columbia

* * * * * * *

GENERAL ELECTRIC COMPANY, APPELLANT vs. FEDERAL RADIO COMMISSION	No. 4870, January term, 1929
THE PEOPLE OF THE STATE OF NEW YORK, appellants vs. FEDERAL RADIO COMMISSION	No. 4871, January term, 1929
AND	
GENERAL ELECTRIC COMPANY, APPELLANT vs. FEDERAL RADIO COMMISSION	No. 4880, January term, 1929

Judgment

Appeals from the Federal Radio Commission. These causes came on to be heard on the transcript of the record from the Federal Radio

Commission and were argued by counsel. On consideration whereof, it is now here ordered and adjudged by this court that the appellant, the General Electric Company, was, on November 11, 1928, and is now, entitled to receive from the Federal Radio Commission a renewal of its license to operate station WGY upon the same terms as those contained in the license dated November 1, 1928, to wit, upon 790 kilocycles with power of 50 kw., and without time limit for operation; and that this cause be and the same is hereby remanded to the Federal Radio Commission to carry this judgment into effect, costs to be assessed against the appellee.

Per Mr. CHIEF JUSTICE MARTIN.

FEBRUARY 25, 1929.

405 In Court of Appeals of District of Columbia

Memorandum: Motion for rehearing and stay of mandate

Filed March 5, 1929

406 In Court of Appeals of District of Columbia

* * * * * * *

GENERAL ELECTRIC CO., APPELLANT
vs.
FEDERAL RADIO COMMISSION
No. 4870

THE PEOPLE OF THE STATE OF NEW YORK, appellants
vs.
FEDERAL RADIO COMMISSION
No. 4871

AND

GENERAL ELECTRIC CO., APPELLANT
vs.
FEDERAL RADIO COMMISSION
No. 4880

Order denying rehearing

Mar. 9, 1929

On consideration of the petition for rehearing in the above-entitled causes, it is ordered by the court that said petition be, and the same is hereby, denied.

407 In Court of Appeals of District of Columbia

GENERAL ELECTRIC CO., APPELLANT
vs.
FEDERAL RADIO COMMISSION
No. 4870

THE PEOPLE OF THE STATE OF NEW YORK, appellants
vs.
FEDERAL RADIO COMMISSION
No. 4871

AND

GENERAL ELECTRIC CO., APPELLANT
vs.
FEDERAL RADIO COMMISSION
No. 4880

Order denying stay of mandate

Mar. 9, 1929

On consideration of the motion to stay the mandate in the above-entitled causes pending application for certiorari to the Supreme Court of the United States, it is ordered by the court that said motion be, and the same is hereby, denied on authority of Keller v. Potomac Electric Power Co., 261 U. S. 428.

408 In Court of Appeals of District of Columbia

GENERAL ELECTRIC COMPANY, APPELLANT
vs.
FEDERAL RADIO COMMISSION
No. 4870

THE PEOPLE OF THE STATE OF NEW YORK, appellants
vs.
FEDERAL RADIO COMMISSION
No. 4871

GENERAL ELECTRIC COMPANY, APPELLANT
vs.
FEDERAL RADIO COMMISSION
No. 4880

Præcipe for transcript of record filed

May 4, 1929

The clerk will please prepare a transcript on application for certiorari to the Supreme Court of the United States in the above-entitled cause, including therein the following:

1. Printed record.
2. Motion to dismiss appeal in No. 4880.

3. Stay order of November 9, 1928.
4. Minute entry of argument.
5. Supplemental motion to dismiss appeal as presenting moot question.
6. Opinion.
7. Order.
8. Docket entry showing motion for rehearing and stay of mandate was filed.
9. Minute entry of order denying same.
10. This designation.
11. Clerk's certificate.

(s.) BETHUEL M. WEBSTER, JR.,
General Counsel for Federal Radio Commission, Appellee.

409 [File indorsement omitted.]

410 [Clerk's certificate to foregoing transcript omitted in printing.]

411 Supreme Court of the United States

Order allowing certiorari

Filed October 14, 1929

The petition herein for a writ of certiorari to the Court of Appeals of the District of Columbia is granted. And it is further ordered that the duly certified copy of the transcript of the proceedings below which accompanied the petition shall be treated as though filed in response to such writ.

(Indorsement on cover:) File No. 34,253. District of Columbia Court of Appeals. Term No. 122. Federal Radio Commission, petitioner, vs. General Electric Company and People of the State of New York. Petition for writ of certiorari and exhibit thereto. Filed June 1, 1929. File No. 34,253.

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No. [redacted] 122

In the Supreme Court of the United States

OCTOBER TERM, 1928

FEDERAL RADIO COMMISSION, PETITIONER

v.

GENERAL ELECTRIC COMPANY, AND PEOPLE OF THE STATE OF NEW YORK

PETITION FOR WRIT OF CERTIORARI TO THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA, AND BRIEF IN SUPPORT THEREOF

BETHUEL M. WEBSTER, JR.,
General Counsel of
Federal Radio Commission.

PAUL M. SEGAL,
Assistant General Counsel of
Federal Radio Commission.

LOUIS G. CALDWELL,
Special Counsel.

U.S. GOVERNMENT PRINTING OFFICE: 1929

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In the Supreme Court of the United States

OCTOBER TERM, 1928

No. ——

FEDERAL RADIO COMMISSION, PETITIONER

v.

GENERAL ELECTRIC COMPANY AND PEOPLE OF THE State of New York

PETITION FOR WRIT OF CERTIORARI TO THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA, AND BRIEF IN SUPPORT THEREOF

PETITION

A

STATEMENT

This petition is directed at a judgment entered by the Court of Appeals on February 25, 1929 (rehearing and stay of mandate denied March 9, 1929), as follows:

> It is the judgment of this court therefore that the appellant, the General Electric Company, was on November 11, 1928, and is now, entitled to receive from the Federal Radio

> Commission a renewal of its license to operate station WGY upon the same terms as those contained in the license dated November 1, 1927, to wit, upon 790 kilocycles with power of 50 KW., and without time limit for operation; and this cause is remanded to the Federal Radio Commission to carry this judgment into effect. Costs assessed against appellee. (R. 392.)

The judgment was entered in three causes (Nos. 4870, 4871, and 4880), which were heard upon one record and treated as one case. In two of the causes General Electric Company was appellant; in one of them People of the State of New York was appellant. Unless otherwise indicated, the word "respondent" will be used to refer to respondent General Electric Company.

All three causes were appeals under Section 16 of the Radio Act of 1927 from a single decision of the Federal Radio Commission made and entered on October 12, 1928. (R. 133, 138.) The Commission's decision was with reference to an application of respondent for renewal of its license to operate its broadcasting station WGY at Schenectady, New York. (R. 90–95.) The license sought to be renewed was issued November 1, 1927, and originally covered a period of two months (R. 88–89); it was successively extended for short periods (never more than sixty days) so that it finally expired on November 11, 1928 (R. 89).

Respondent's license of November 1, 1927, authorized the use of 50 KW. power on 790 kcs. with full

time operation. The Commission's decision of October 12, 1928, was that said application for renewal be granted, the renewal license to be for the same frequency, and substantially the same power, but with hours of operation reduced to what is defined by the regulations of the Commission as a "limited time" station. (R. 133, 138, 111, 109.) The new license was actually issued on October 17, 1928 (R. 188); it covered the period from November 11, 1928, to January 31, 1929. It was rejected by respondent which operated thereafter under a "stay order" from the Court of Appeals.

(1) Matters involved in certain motions of petitioner going to jurisdiction of Court of Appeals, etc.

Respondent General Electric Company filed its notice of appeal (No. 4870) in the Court of Appeals on November 9, 1928, twenty-eight days after the Commission's decision. (R. 1, 10.) On the same day the Court of Appeals granted said respondent's motion to "stay" the Commission's decision (R. 380); this stay order remained in effect thereafter. Respondent People of the State of New York filed its notice of appeal (No. 4871) from the same decision on the same day. (R. 10, 13.) Respondent General Electric Company filed another notice of appeal (No. 4880) from the same decision on November 30, 1928. (R. 13, 23.) Timely motions to dismiss were made by the Commission in all three causes (R. 364, 373, 376), the grounds, among others, being that none of the appeals were taken within twenty days after the effec-

tive date of the Commission's decision, as required by Section 16 of the Act; that the State of New York had no standing on appeal under Section 16; that the Commission's decision was not an appealable decision under Section 16; and that the notices of appeal filed were on their faces defective so as to fail to confer any jurisdiction on the court, and in one case (No. 4870) that the notice was such as to completely negative such jurisdiction (R. 1). The Court of Appeals took these motions under advisement, together with the case on the merits, and, by direct implication, overruled them in its final judgment.

Respondent General Electric Company attached to each of its notices of appeal long affidavits executed on personal knowledge by its own attorneys of record, Stephen Philbin, Esq. and Frank J. Hogan, Esq., covering many highly technical matters and incorporating large numbers of letters, affidavits, and other documents as exhibits which, although condensed, occupy over one hundred pages of the printed record. (R. 1–10, 13–23, 205–282.) For the most part the matters covered by these affidavits and exhibits were not presented to the Commission on or at any time prior to October 12, 1928, the date of its decision, or in support of the application for renewal. The Commission made timely motions in both causes to strike this matter on the ground that it was improperly injected into the record in contravention of the provisions of Section 16 of the

Act. (R. 368, 374.) The Court of Appeals took these motions under advisement with the case on the merits but ignored them in its final judgment; by necessary implication, however, it overruled the motions, since its opinion sets forth as facts certain matters which are to be found only in the documents sought to be stricken.

The Commission likewise made a timely motion to set aside the "stay order" of November 9th. (R. 370.) The Court of Appeals took this motion under advisement, together with the merits of the case, but the judgment, by necessary implication, overrules the motion.

The three causes were argued orally as one on December 3–4, 1928. On February 21, 1929, the Commission renewed its motion to dismiss, and, in addition to the grounds previously urged, set forth the further ground that the questions involved on the merits of the case were now all moot questions and that the court had no jurisdiction to enter any judgment with respect to the questions involved. (R. 381, 384.) These contentions were ignored by the Court of Appeals.

(2) Matters involved on the merits of the case

The opinion of the Court of Appeals, except in so far as it passes on the constitutionality of the Radio Act of 1927, and except for its judgment of costs against the Commission in favor of respondents on all three appeals, and except for the issuance of and refusal to set aside the "stay order,"

appears to be that of an administrative tribunal sitting on appeal over another administrative tribunal. The Court's decision, however, while avoiding the appearance of so doing, has held invalid in whole or in part the most important regulations yet adopted by the Commission.

Among the regulations held invalid in whole or in part are those incorporated in and popularly known as General Order No. 40 (R. 100–104), supplemented by General Order No. 42 (R. 110). General Order No. 40 was adopted August 30, 1928, effective October 1, 1928, and represents the Commission's effort to carry out the mandate of Congress to clear up the previously existing chaotic interference in the broadcast band (Section 4 (F), Radio Act of 1927) and to equalize broadcasting facilities among the five Zones and the States within the Zones (Section 5, Amendatory Act of 1928). The order classified the 96 channels in the broadcast band and placed restrictions on each of them with respect to the number of stations which might operate on them simultaneously and the power such stations might use. The order sets aside 40 of the channels, popularly known as "cleared channels," to be used by stations of substantial power (i. e., 5 KW. to 50 KW.) with the restriction that only one station might use such a channel at any time during night hours (R. 101, 104). The 40 channels were allocated eight to each of the five Zones. The channel of 790 kc. was designated as a cleared channel and assigned to the

Fifth Zone (R. 102) for exclusive interference-free evening operation.

It is generally conceded that stations of substantial power operating on cleared channels constitute the only means of furnishing rural and distant communities with broadcasting service. The engineering necessity for cleared channels is demonstrated by testimony of leading radio engineers heard by the Commission on July 23, 1928. (R. 343–363.) Other considerations entering into the formulation of General Order No. 40 will also be found in the Record. (R. 282–343.) The only complaint made by respondent against General Order No. 40 was that it should have provided for 50 cleared channels instead of 40. (R. 7, 21.) The Court of Appeals reduced the number to 39 by destroying 790 kc. as a cleared channel.

Having adopted General Order No. 40, the Commission, on September 8, 1928, made a tentative allocation of all broadcasting stations to "positions" in accordance with the order, and issued a list of new assignments which, together with a statement, was sent to every licensee, including respondent. (R. 106, 109, 112–114.) The allocation was to govern licenses issued for the next license period, beginning November 11th. It showed station WGY as assigned to 790 kc. with limited time operation and 50 KW. power; and station KGO at Oakland, California, also owned by respondent, was assigned to full-time operation with 10 KW. power on the same channel. (R. 138.) The meaning of

"limited time" was later crystallized in another general order. (R. 111.) As applied to Station WGY it meant that it would have to close down at the hour of sunset at Oakland, California, unless the Oakland station, KGO, would submit to a slight curtailment of time. The interference range of radio waves of two stations on the same channel is much less during daylight hours than after the hour when both are "linked by darkness," namely, sunset at the western station. If KGO would not submit to any curtailment, the Commission's ruling meant an average closing down for WGY at 9:06 P. M. at Schenectady, New York, varying from 10:32 P. M. in June to 7:56 P. M. in December. (R. 130.) The Commission, however, proposed and bound itself to approve an arrangement whereby WGY might operate every evening until 10 P. M. on condition only that KGO close down between sunset and 7 P. M. during those months when sunset at Oakland occurs prior to 7 P. M. (R. 117–119, 123.) This meant an average period of 51 minutes during which KGO would have to close down prior to 7 P. M. The two stations being both owned by respondent, General Electric Company, the matter rested entirely in its hands. The Court of Appeals completely ignored the arrangement proposed by the Commission, although the record is clear on the subject.

The Commission's statement of September 11th set forth in detail the procedure to be followed by

any station dissatisfied with its assignment; it called for an application on a prescribed form and provided for notice to interested parties, and hearing. (R. 114.) Respondent obtained the forms from the Commission (R. 115) and on October 5, 1928, filed such an application. (R. 125–129.) It chose, however, to defy the Commission by requesting full-time operation on 790 kc., which under General Order 40 was a cleared channel assigned to the Fifth Zone (R. 126), although there were eight other channels designated as cleared channels and assigned to the First Zone, all available to the respondent as the basis for application and hearing (R. 101). The application also asked for power of 150 KW, which was 100 KW in excess of the maximum permitted by General Order 42. (R. 110.) On October 12th the Commission denied the application without hearing on the ground that the application was in conflict with its regulations. (R. 161.) Respondent was notified of this action informally within a day or two and by formal notice on October 17th. (R. 161.) By repeated letters and verbal conferences thereafter the Commission explained to respondent that respondent could have a hearing at any time by complying with the Commission's regulations and requesting its full time on a cleared channel available to stations in the First Zone. (R. 162–171.) Respondent refused to do so.

On October 12th, the same day that the Commission denied the application just described, it took

action on all the applications for renewal of license then before it, including respondent's application for renewal as above explained. (R. 133.) The Court of Appeals confused this action with the Commission's action approving the allocation scheme as a whole. (R. 131.) The reason for this procedure was fully explained to all licensees and prospective applicants in the Commission's statement of September 11th (R. 113); as is there shown, applications for changes from dissatisfied stations were encouraged and hearings were to be accorded them.

The Court of Appeals, ignoring General Orders 40 and 42, awarded WGY full time operation on 790 kc. with power of 50 KW. It did this without any evidence before it other than that contained in the documents attached to respondent's notice of appeal and in the application of respondent for renewal of license. There having been no hearing before the Commission, the Commission could not and did not send up any evidence as to whether the granting of respondent's renewal application for full time would serve public interest, convenience, or necessity. The only evidence in the record on the seriousness of interference arising from simultaneous evening operations of WGY and KGO is to the effect that such interference would be very serious and would reduce the service range of both stations to a very small area around the transmitter of each.

(See for example R. 354–355.) The Court of Appeals therefore made its decision entirely on an *ex parte* record and was not consistent even with that.

The decision of the Court of Appeals has also by necessary implication held invalid the Commission's regulations governing procedure, which have been in force since its establishment. These regulations require that any application for a change "must specify what frequency, power, and/or hours of operation are desired by the applicant." (R. 114, 181–2.) When such an application is made, if it is otherwise in accordance with the Commission's regulations, all other interested stations are notified so that no change will be made without an opportunity for hearing on the part of all stations likely to be affected. This procedure is the only method which the Commission or, so far as it knows, anyone else has been able to devise to reduce the issues in the peculiar controversies that arise between competing broadcasting stations (or any other kind of radio stations) for the limited number of facilities available to the radio spectrum. The Court of Appeals has singled out respondent from nearly 650 broadcasting stations and has relieved it of any necessity for comparing its claims with the claims of any other station for preferred position.

B

REASONS FOR GRANTING THE WRIT

(1) The Court of Appeals has erroneously construed Section 16 of the Radio Act of 1927 in the following respects:

(a) In holding that the three appeals involved in this cause, or any of them, were filed "within twenty days after the decision complained of is effective."

(b) In holding that the respondent, State of New York, not being an applicant whose application is refused or a licensee whose license is revoked, has a right to appeal from a decision of the Commission.

(c) In holding that papers and evidence not presented to the Commission upon or in support of the application in question may be introduced into the record by merely attaching them to the notice of appeal or by any manner other than that prescribed for the taking of additional evidence in the second paragraph of Section 16.

(d) In holding that the Commission's decision of October 12th with reference to the renewal application of respondent, General Electric Company, was an appealable decision.

(2) The Court of Appeals has erroneously construed Sections 9, 10, 11, and 16 of the Radio Act of 1927, and Section 3 of the Amendatory Act of March 28, 1928, in entering a judgment on February 25, 1929, as to what respondent, General Elec-

tric Company, was *then* entitled to, over three months having elapsed after November 11, 1928, and the Commission being required every three months to determine, as it would on original application, whether the granting of a renewal application will serve public interest, convenience, or necessity.

(3) The Court of Appeals has erroneously construed Section 16 of the Radio Act of 1927 in holding that it has power to assess costs—

(a) against the Commission in any case;

(b) against the Commission in favor of a person not coming within the description of persons who may appeal under Section 16;

(c) in favor of a person on each of two appeals from the same decision.

(4) The Court of Appeals erroneously construed Section 16 of the Radio Act of 1927 in holding that said section invests said court with the powers and duties of an administrative tribunal, as distinguished from those of a judicial tribunal, in reviewing decisions of the Commission. If, however, the Commission is in error on this, then the Court of Appeals has no right to assess costs against the Commission, to enter such orders as its "stay order" of November 9, 1928, or to hold invalid any regulations of the Commission.

(5) The Court of Appeals erroneously construed Section 16 of the Radio Act of 1927 as giving it the right to determine in the first instance whether the granting of an application would serve public in-

terest, convenience, or necessity in a case where no hearing was held by the Commission on such application because of regulations of the Commission, which, if valid, made such a hearing a useless ceremony; the Court of Appeals has no right in such a case further than to remand the case to the Commission for hearing and then only if it finds the regulation invalid.

(6) The Court of Appeals has wrongly decided a question of immense general importance in holding invalid the regulations of the Commission incorporated in General Order 40, upon which the assignments of all the broadcasting stations of the United States, nearly 650 in number, are based and future controversies among them determined.

(7) The Court of Appeals has wrongly decided a question of general importance in holding invalid the Commission's regulations governing procedure covering applications and hearings on the part of and among broadcasting stations.

(8) The judgment of the Court of Appeals is arbitrary and capricious; it is based on conclusions of fact which are not only not supported by any evidence properly before the court but which are in substantial measure wholly refuted by undisputed evidence in the record; if the Court of Appeals is to be viewed as acting in an administrative capacity in appeals from decisions of the Commission, then a writ of certiorari issued by this court is the only means of obtaining relief from such judgments.

(9) The statutory provisions of the Radio Act of 1927 and of the Amendatory Act of March 28, 1928, hereinabove referred to, have never been construed or passed upon by this court; their proper construction has, because of the tremendously increasing importance and widespread use of radio communication, become a matter of extremely great general importance.

(10) The Court of Appeals in violation of Section 16 of the Radio Act of 1927 did not confine its revision of the Commission's decision to the points set forth in the several reasons of appeal.

Wherefore your petitioner respectfully prays that a writ of certiorari be issued out of and under the seal of this Honorable Court directed to the Court of Appeals of the District of Columbia, commanding that court to certify and to send to this court for its review and determination, on a day certain to be therein named, a full and complete transcript of the record and all proceedings in the cases numbered and entitled on its docket, No. 4870, *General Electric Company, Appellant,* v. *Federal Radio Commission, Appellee;* No. 4871, *People of the State of New York, Appellant,* v. *Federal Radio Commission, Appellee;* and No. 4880, *General Electric Company, Appellant,* v. *Federal Radio Commission, Appellee,* and that the said judgment of the Court of Appeals may be reversed by this Honorable Court, and that your petitioner may have such

other and further relief in the premises as to this Honorable Court may seem meet and just; and your petitioner will ever pray.

FEDERAL RADIO COMMISSION,

BETHUEL M. WEBSTER, Jr.,
General Counsel of Federal Radio Commission.

PAUL M. SEGAL,
Assistant General Counsel of Federal Radio Commission.

LOUIS G. CALDWELL,
Special Counsel.

BRIEF IN SUPPORT OF THE PETITION

I

OPINION BELOW

The opinion of the Court of Appeals of the District of Columbia is reported in 31 F. (2d) 630. (R. 386.)

II

JURISDICTION

1. The judgment of the Court of Appeals of the District of Columbia sought to be reviewed was entered March 9, 1929. (R. 394.)

2. Jurisdiction to issue the writ is found in the provisions of Section 240 (a) of the Judicial Code, as amended by Act of February 13, 1925, 43 Stat. 936.

3. The judgment of the Court of Appeals, entered February 25, 1929, found that the General Electric Company was on November 11, 1928, "and is now," entitled to receive from the Commission a certain kind of license; it remanded the cause to the Commission to carry the judgment into effect and assessed costs against the Commission in favor of the respective appellants. (R. 393.) This judgment by necessary implication held invalid in whole or in part certain important regulations of the Commission incorporated in General Order No. 40 (R.

100–104), since the license which the court ordered to be issued was inconsistent with these regulations. The judgment also by necessary implication held certain regulations with respect to procedure (R. 114, 181–2) invalid, as hereinafter explained. The court by necessary implication overruled the several motions of the Commission going to the jurisdiction of the court and to various matters of appellate procedure under Section 16 of the Radio Act of 1927. (R. 364–378.) For the other necessary implications of said judgment, see "Specification of Errors" below.

4. Cases believed to sustain the jurisdiction:

(*a*) Section 16 of the Radio Act of 1927 limits the Court of Appeals to the exercise of judicial as distinguished from administrative functions—

Federal Trade Commission v. *Klesner,* 274 U. S. 145.

I. C. C. v. *Illinois Central Railroad,* 215 U. S. 452.

Ma-King Products Company v. *Blair,* 271 U. S. 479.

United States v. *Duell,* 271 U. S. 576.

Eastman Kodak Co. v. *Federal Trade Commission,* 274 U. S. 620.

Stafford v. *Wallace,* 258 U. S. 495.

Degge v. *Hitchcock,* 229 U. S. 164.

Smith et al. v. *Foster et al.,* 15 F. (2d) 115 (D. C., S. D., N. Y., 1926).

Chamber of Commerce of Minneapolis v. *Federal Trade Commission,* 280 Fed. 45 (C. C. A., 8th, 1922).

(*b*) The following functions, exercised by the Court of Appeals in this case, are judicial and not administrative in character:

Assessment of Costs—

Tesla Electric Co. v. *Scott et al.*, 101 Fed. 524.

Holding regulations of Commission invalid—

U. S. ex rel. Steinmetz v. *Allen*, 192 U. S. 543.

U. S. v. *Antikamnia Co.*, 231 U. S. 652.

Smoot v. *Heyl*, 227 U. S. 518.

Issuance of prerogative writ in aid of appellate jurisdiction—

Western Union Telegraph Co. v. *Myatt et al.*, 98 Fed. 335.

III

STATEMENT

A full statment of the case has been given under heading A in the petition and in the interest of brevity will not be repeated.

IV

SPECIFICATION OF ERRORS

A full statement of the errors intended to be urged has been given under heading B in the petition and in the interest of brevity will not be repeated.

V

ARGUMENT

(Note: The statutes involved are the Radio Act of 1927, 44 Stat. 1162, Amendatory Act of March 28, 1928, and Amendatory Act of March 4, 1929. These statutes being long, they are set out in Appendices A, B, and C, respectively.)

SUMMARY OF THE ARGUMENT

Point A. In overruling petitioner's several motions, the Court of Appeals has erroneously construed Section 16 of the Radio Act of 1927.

Point B. The Radio Act of 1927 does not invest the Court of Appeals with the powers and duties of an administrative tribunal.

Point C. The Commission's regulations incorporated in General Order No. 40 and its regulations governing its procedure are valid.

Point D. The judgment of the Court of Appeals was arbitrary and capricious.

Point E. The Court of Appeals erred in assessing costs against the Commission.

Point A

In overruling petitioner's several motions, the Court of Appeals has erroneously construed Section 16 of the Radio Act of 1927

Secton 16 requires that an appeal be taken—

> by filing with said court, within twenty days after the decision complained of is effective, notice in writing of said appeal and of the reasons therefor.

None of the three appeals involved in this case were taken within twenty days of the date on which the Commission's decision was made and entered, namely, October 12, 1928. (R. 130–133.) We contend that, with respect to the limitation of time for appeal, a decision of the Federal Radio Commission should be viewed in the same light as the decision of any other administrative or quasi-judicial tribunal or the judgment of a court. The usual, and, so far as we know, the universal rule is that the limitation begins to run when the decision or judgment is entered. This is for the reason that it is then a final decision or judgment, in other words, *effective*.

The reason for the use of the word "effective" in Section 16 is found in the provision of Section 14 having to do with orders of revocation of license:

> That no such order of revocation shall take effect until thirty days' notice in writing thereof * * * has been given to the parties.

There is no such provision in the statutes with regard to any of the four kinds of applications denials of which are subject to appeal. A denial of an application for renewal of license is the same in juristic nature as a denial of an application for a license or a denial of an application for a construction permit. The Commission might itself specify an effective date later than the actual date of the decision but otherwise the decision is final and conclusive for all practical purposes when it is made.

The third to the last paragraph of Section 5 of the Radio Act of 1927 (covering appeals from decisions of the Secretary of Commerce to the Commission after December 31, 1929) supports our construction of Section 16. There the time limitation is from the date of the decision. The Secretary of Commerce after December 31, 1929, will have original power to make decisions on applications but will not have such power on revocation of license. (See first paragraph of Section 5.)

The Court of Appeals, however, ignored the date of the decision and by implication seems to find the effective date as November 11, 1928. This was the date of the expiration of all existing broadcasting licenses and the beginning of the period to be covered by new licenses. The Commission's decision of October 12th (R. 133) was construed by the Court of Appeals as a denial of the renewal application. (R. 390.) Thus the license which the Commission actually issued to General Electric Company and which was rejected by that Company did cover a period beginning November 11th, but, we submit, the period covered by that license is entirely independent of the effective date of a decision refusing another kind of license.

Under Section 16 the persons who may appeal are limited to the following:

> Any applicant for a construction permit, for a station license, or for the renewal or modification of an existing station license, whose application is refused by the licensing

> authority * * * and any licensee whose license is revoked by the Commission.

Manifestly, the People of the State of New York are not entitled to appeal from a decision by the Commission refusing an application for renewal on the part of the General Electric Company.

Section 16 further provides that—

> Within twenty days after the filing of said appeal the licensing authority shall file with the court the originals or certified copies of all papers and evidence presented to it upon the original application for a permit or license.

The Section also provides for the adducing of additional evidence with a specific time limitation and the requirement that it be done by leave of court on a—

> verified petition stating the nature and character of said additional evidence.

As has already been pointed out, the General Electric Company injected a mass of "additional evidence" into the record by attaching it to its notices of appeal. The Court of Appeals in its opinion sets forth supposed facts, apparently drawn in part from the matter thus introduced into the record. (R. 391.)

It is our contention that the Commission's decision of October 12th was not an appealable decision, in that it constituted a granting and not a denial of the renewal application. We submit that other sections of the statute show that it was

the intention of Congress that the licensing authority be unrestricted at the end of each license period in changing without a hearing the frequency, power, or hours of operation of any station, subject only to the test of public interest, convenience, or necessity. The portions of the Act which support this view are the opening sentence of Section 1, Section 4, and particularly subparagraphs (c) and (f), the last paragraph of Section 5, the second paragraph of Section 11, including Condition (A), and the last paragraph of Section 39. The Radio Act of 1927, as it stood before amendment, provided in Section 9 for maximum periods for broadcasting licenses not to exceed three years. This was cut down to three months by Section 3 of the Amendatory Acts of March 28, 1928 and March 4, 1929, respectively. Nevertheless, the principle remains the same. Congress sought to protect a station against changes *during the period of a license* by subparagraph (f) of Section 4. The chief purpose of the enactment of the Radio Act of 1927 and the establishment of the Commission was to bring about a complete reallocation of broadcasting stations so as to bring some measure of order and good reception out of chaos; this meant the complete elimination of some stations and the curtailment of the privileges of a large number of others. It could hardly have been intended that a hearing was to be necessary as to each such station under Section 11 of the Act or that any change was to be the basis for an appeal.

If the Commission had granted the renewal application of the General Electric Company to the fullest extent and for the maximum period authorized by law, the Commission would have issued such a license covering a period of three months from November 11, 1928, to February 11, 1929. Section 11 of the Act requires the Commission to examine each and every application for renewal of license and determine whether public interest, convenience, or necessity would be served by the granting thereof. Since the maximum period of broadcasting licenses is three months, the Commission must perform this duty every three months. The Court of Appeals has erroneously construed Section 16 of the Act as giving it power to make an original determination of what will serve public interest, convenience, or necessity in a case where the Commission has made no such determination in the first instance, and, in addition, a three months' period has elapsed so that it is again the Commission's duty to make a further determination on a further renewal application. We submit, therefore, that the question as to what respondent's station was entitled to on November 11, 1928, became moot on February 11, 1929, and the Court of Appeals thereafter had no power to determine either that question or what the respondent was "now" entitled to. *Security Mutual Life Insurance Company* v. *Prewitt,* 200 U. S. 446; *Mills* v. *Green,* 159 U. S. 651; *American Book Co.* v. *Kansas,* 193 U. S. 49; *Jones* v. *Montague,* 194 U. S. 147; *Cheong Ah Moy* v.

United States, 113 U. S. 216; *Tennessee* v. *Condon,* 189 U. S. 64.

Point B

The Radio Act of 1927 does not invest the Court of Appeals with the powers and duties of an administrative tribunal

It is our contention that the nature of the power with which the Court of Appeals is invested by the Radio Act of 1927 is judicial, authorizing the court only to pass on questions of law and intended simply as a protection against arbitrary or capricious action of the Commission; that it was never intended to give the Court of Appeals the power to substitute its judgment on matters of such a technical, specialized, or complex nature as those of radio communication for the judgment of the Commission, which is presumably a tribunal of experts, both by original choice and by experience. *People ex rel, N. Y. & Q. Gas Co.* v. *McCarl,* 245 U. S. 345. We realize, of course, that Congress has power to invest the Court of Appeals of the District of Columbia with the functions of an administrative tribunal in a proper case. *Keller* v. *Potomac Electric Power Company,* 261 U. S. 428. The mere fact, however, that it is that court which has been invested with supervision over the Commission's decisions, as distinguished from a District Court or a Circuit Court of Appeals, does not necessitate the conclusion that it was intended to give the Court of Appeals administrative powers.

The first paragraph of Section 16 provides that from certain decisions of the Commission, namely, those of revocation of license, the licensee may appeal either to the Court of Appeals or—

> to the District Court of the United States in which the apparatus licensed is operated.

Whether his appeal be to one court or to the other, the procedure to be followed by the licensee is exactly the same, including the provision for additional evidence and the scope of the judgment which may be entered by the court. Manifestly, the statute can not invest a District Court of the United States with administrative functions; if it attempts to, it is unconstitutional. *Keller* v. *Potomac Electric Power Company, supra.* If we assume that the statute is open to two constructions, that which is consistent with the Constitution should be adopted.

We submit that the provisions for review in Section 16 should be likened to those of Sections 5 and 6, Title Two, of the National Prohibition Act (41 Stat. 305) having to do with decisions of the Prohibition Commissioner, as construed by this court in *Ma-King Products Company* v. *Blair,* 271 U. S. 479. See also *Smith* v. *Foster,* 15 F. (2d) 115.

A not dissimilar provision to that contained in Section 16 of the Radio Act is that providing for leave to adduce additional evidence in the Federal Trade Commission Act and providing for appeals from that Commission's decisions to the Circuit

Court of Appeals (38 Stat. 717, Sec. 5). *See Eastman Kodak Company* v. *Federal Trade Commission,* 274 U. S. 620; *Chamber of Commerce of Minneapolis et al.* v. *Federal Trade Commission,* 280 Fed. 45 (C. C. A., 8th, 1922).

In the ordinary case in which additional evidence is sought to be taken, it would be the Federal Radio Commission which would be ordered to take it, and, we submit, the last sentence of the second paragraph of Section 16 should be so construed. It will be noticed that under the last sentence of Section 16—

> the revision by the court shall be confined to the points set forth in the reasons of appeal.

If petitioner be in error on the point under discussion and if the Court of Appeals be invested with administrative functions, then, we submit, the Court of Appeals had no power or jurisdiction to perform any of the following acts essentially judicial in character:

> (*a*) The assessing of costs against petitioner.
>
> (*b*) The issuance of the "stay order" of November 9, 1928.
>
> (*c*) The holding of regulations of the Commission invalid.

That a judgment for costs is a judicial function based on express statutory authority, see *Tesla Electric Co.* v. *Scott,* 101 Fed. 524. That a prerogative writ in aid of appellate jurisdiction is a judicial

function, see *Western Union Telegraph Company* v. *Myatt,* et al., 98 Fed. 335. That a determination of the validity of legislation or of a regulation which has the force of law is a judicial function, see *U. S. ex rel. Steinmetz* v. *Allen,* 192 U. S. 543.

That the Commission's regulations have the force of law is evident from the fact that violation of the regulations is ground for revocation of license under Section 14 as well as for criminal proceedings under Section 32. That the Court of Appeals was not intended to have the power of simply revising or ignoring the Commission's regulations is evident by a comparison of Section 16 with Section 5. When the Secretary of Commerce shall take over the powers of the Commission, the following provision will control appeals from decisions of the Secretary of Commerce to the Commission:

> Any person * * * aggrieved or whose interests are adversely affected by any decision, determination, or regulation of the Secretary of Commerce, may appeal therefrom to the Commission by filing with the Secretary of Commerce notice of such appeal within thirty days after such decision or determination or promulgation of such regulation.

Section 16 gives no such power to revise the Commission's regulations to the Court of Appeals. That such regulations have the force of law, see *U. S.* v. *Eaton,* 144 U. S. 677; *U. S.* v. *Grimaud,* 220 U. S. 506.

It may be argued that the Court of Appeals is and can lawfully be invested with both judicial and administrative functions. If this be the case, then certainly the Supreme Court of the United States may review the exercise of the judicial functions by writ of certiorari.

Point C

The Commission's regulations incorporated in General Order 40 and its regulations governing its procedure are valid

The only point made against the Commission's General Order 40 was that it should have provided for 50 cleared channels instead of 40. (R. 7, 21.) The Court of Appeals reduced the number from 40 to 39 by destroying 790 kc. as a cleared channel. Section 16 of the Radio Act of 1927 provides:

> The revision by the court shall be confined to the points set forth in the reasons of appeal.

The principles apparently enunciated by the Court of Appeals may necessarily result in a large further reduction in the number of cleared channels, both for the purpose of achieving equality among the five Zones and to recognize similar claims of other daytime or limited time stations. Twenty-four of the 40 cleared channels have daytime or limited time stations assigned to them. (R. 134–160.) The reasonableness of General Order 40 rests upon complicated engineering facts and principles which are set forth at length in the record.

(R. 282-363.) The number of cleared channels could not be increased without either entirely eliminating or fatally curtailing the many stations on regional and local channels. Examples of the present assignments on regional chanels are the frequencies 550, 560, 570, and 950 kc. (R. 136-141.) Examples of the present assignments on local channels are the frequencies of 1,200 and 1,210 kc. (R. 145-148.) We submit that the facts in the record amply demonstrate the reasonableness and validity of General Order 40. The necessity for cleared channels is in the fact that they furnish the only means of giving broadcasting service to the large rural areas of the United States. (R. 304, 306, 351.)

General Order 40 was authorized and required by subparagraph (f) of Section 4 of the Radio Act of 1927 and Section 5 of the Amendatory Act of 1928. The Court of Appeals has provided no substitute or suggested any method of either restoring the equality it has destroyed as between the Zones or of eliminating the additional interference to which it has subjected the people of the Fifth Zone.

The Commission's regulations governing procedure (R. 114, 181-2) are the only method of reducing controversies between competing broadcasting stations to justiciable issues. Unless a station which desires a better assignment is required to specify what frequency, power, and/or hours it de-

sires, then it is impossible to determine what other stations have an interest entitling them to be heard on the application. Presumably a station in making an application will select a position occupied by the station with the weakest claim thereto, and thus the issues will be automatically reduced to a comparison of the claims of a limited number of stations. Otherwise the only alternative is to call in a tremendously large number of stations. Inasmuch as there are only 90 channels available for use by broadcasting in the United States and there are nearly 650 broadcasting stations already in existence, with a great many additional applicants, no change can be made except at the expense of some other existing station and its listening public. The standard of "public interest, convenience, or necessity" is, therefore, comparative and not absolute as applied to broadcasting stations. A necessary element in the comparison is, of course, the need of any particular region for broadcasting service, as distinguished from some other reason. Such issues can be developed only under the Commission's procedure and can not be developed on an *ex parte* hearing of the claims of a single station.

Point D

The judgment of the Court of Appeals was arbitrary and capricious

It has already been explained that in so far as the Court of Appeals determined that public interest, convenience, or necessity would be served by

granting respondent's application for full time operation on 790 kc., it did so solely on the basis of *ex parte* statements of respondent itself and its attorneys, including a great deal of matter not properly in the record. There is absolutely nothing in the record justifying the Court of Appeals in finding that WGY is entitled to full time on 790 kc., as distinguished from any of the 8 cleared channels assigned to the First Zone, all of which are "substantially equivalent." According to its reasons for appeal, respondent did not insist on 790 kc. but asked for "any frequency substantially equivalent." (R. 2, 8, 14, 22.) It could have had any of the 8 cleared channels assigned to the First Zone by making a proper application and sufficient showing on a hearing as against the stations tentatively assigned to such channel.

The Court of Appeals completely ignored the arrangment proposed by the Commission, which would have permitted WGY to broadcast until 10 P. M. every evening with only a small curtailment on Station KGO. (R. 117–119, 123.) There was nothing before the Court of Appeals showing whether public interest, convenience, or necessity would or would not be served by the small curtailment of KGO of 51 minutes daily prior to 7 P. M.

The Court of Appeals ignored the facts in the record showing that respondent had every opportunity for a hearing and chose instead to defy the Commission's regulations. (R. 126, 162–171.)

The Court of Appeals virtually made a finding that the interference that would be caused by the simultaneous evening operation of WGY and KGO was not serious. (R. 392.) The only evidence in the record is to the contrary. (See, for example, R. 354–355.) Respondent by necessary implication conceded the seriousness of the interference by insisting that there should have been 50 cleared channels instead of 40 and that it should have had one.

If the Court of Appeals sits as an administrative tribunal under Section 16 of the Radio Act of 1927, then the Supreme Court of the United States is the only tribunal in which relief can be had against arbitrary and capricious conduct on the part of the Court of Appeals.

Point E

The Court of Appeals erred in assessing costs against the Commission

Whether the Court of Appeals performs judicial or administrative functions in reviewing decisions of the Commission, the Commission is an inferior tribunal and not a party in the ordinary sense. Costs should not, therefore, be assessed against it for erroneous decisions.

The judgment of the Court of Appeals assessed costs in favor of respondent, People of the State of New York, although said respondent manifestly had no standing on appeal. The court also assessed costs in favor of respondent, General Electric Company, on both of the two appeals, although obviously one of them must have been unnecessary.

CONCLUSION

It is, therefore, respectfully submitted that this case is one calling for the exercise by this court of its supervisory powers, and that to such an end a writ of certiorari should be granted and this court should review the decision of the Court of Appeals of the District of Columbia and finally reverse it.

FEDERAL RADIO COMMISSION,

BETHUL M. WEBSTER, JR.,
General Counsel of Federal Radio Commission.

PAUL M. SEGAL,
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LOUIS G. CALDWELL,
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APPENDIX A

[PUBLIC—No. 632—69TH CONGRESS]

[H. R. 9971]

An Act For the regulation of radio communications, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act is intended to regulate all forms of interstate and foreign radio transmissions and communications within the United States, its Territories and possessions; to maintain the control of the United States over all the channels of interstate and foreign radio transmission; and to provide for the use of such channels, but not the ownership thereof, by individuals, firms, or corporations, for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license. That no person, firm, company, or corporation shall use or operate any apparatus for the transmission of energy or communications or signals by radio (a) from one place in any Territory or possession of the United States or in the District of Columbia to another place in the same Territory, possession, or District; or (b) from any State, Territory, or possession of the United States, or from the District of Columbia to any other State, Territory, or possession of the United States; or (c)

from any place in any State, Territory, or possession of the United States, or in the District of Columbia to any place in any foreign country or to any vessel; or (d) within any State when the effects of such use extend beyond the borders of said State, or when interference is caused by such use or operation with the transmission of such energy, communications, or signals from within said State to any place beyond its borders, or from any place beyond its borders to any place within said State, or with the transmission or reception of such energy, communications, or signals from and/or to places beyond the borders of said State; or (e) upon any vessel of the United States; or (f) upon any aircraft or other mobile stations within the United States, except under and in accordance with this Act and with a license in that behalf granted under the provisions of this Act.

SEC. 2. For the purposes of this Act, the United States is divided into five zones, as follows: The first zone shall embrace the States of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Delaware, Maryland, the District of Columbia, Porto Rico, and the Virgin Islands; the second zone shall embrace the States of Pennsylvania, Virginia, West Virginia, Ohio, Michigan, and Kentucky; the third zone shall embrace the States of North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Arkansas, Louisiana, Texas, and Oklahoma; the fourth zone shall embrace the States of Indiana, Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Iowa, Nebraska, Kansas, and Missouri; and the fifth zone shall embrace the States of Montana, Idaho, Wyoming,

Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, the territory of Hawaii, and Alaska.

SEC. 3. That a commission is hereby created and established to be known as the Federal Radio Commission, hereinafter referred to as the commission, which shall be composed of five commissioners appointed by the President, by and with the advice and consent of the Senate, and one of whom the President shall designate as chairman: *Provided*, That chairmen thereafter elected shall be chosen by the commission itself.

Each member of the commission shall be a citizen of the United States and an actual resident citizen of a State within the zone from which appointed at the time of said appointment. Not more than one commissioner shall be appointed from any zone. No member of the commission shall be financially interested in the manufacture or sale of radio apparatus or in the transmission or operation of radiotelegraphy, radiotelephony, or radio broadcasting. Not more than three commissioners shall be members of the same political party.

The first commissioners shall be appointed for the terms of two, three, four, five, and six years, respectively, from the date of the taking effect of this Act, the term of each to be designated by the President, but their successors shall be appointed for terms of six years, except that any person chosen to fill a vacancy shall be appointed only for the unexpired term of the commissioner whom he shall succeed.

The first meeting of the commission shall be held in the city of Washington at such time and place as the chairman of the commission may fix. The com-

mission shall convene thereafter at such times and places as a majority of the commission may determine, or upon call of the chairman thereof.

The commission may appoint a secretary, and such clerks, special counsel, experts, examiners, and other employees as it may from time to time find necessary for the proper performance of its duties and as from time to time may be appropriated for by Congress.

The commission shall have an official seal and shall annually make a full report of its operations to the Congress.

The members of the commission shall receive a compensation of $10,000 for the first year of their service, said year to date from the first meeting of said commission, and thereafter a compensation of $30 per day for each day's attendance upon sessions of the commission or while engaged upon work of the commission and while traveling to and from such sessions, and also their necessary traveling expenses.

SEC. 4. Except as otherwise provided in this Act, the commission, from time to time, as public convenience, interest, or necessity requires, shall—

(a) Classify radio stations;

(b) Prescribe the nature of the service to be rendered by each class of licensed stations and each station within any class;

(c) Assign bands of frequencies or wave lengths to the various classes of stations, and assign frequencies or wave lengths for each individual station and determine the power which each station shall use and the time during which it may operate;

(d) Determine the location of classes of stations or individual stations;

(e) Regulate the kind of apparatus to be used with respect to its external effects and the purity and sharpness of the emissions from each station and from the apparatus therein;

(f) Make such regulations not inconsistent with law as it may deem necessary to prevent interference between stations and to carry out the provisions of this Act: *Provided, however,* That changes in the wave lengths, authorized power, in the character of emitted signals, or in the times of operation of any station, shall not be made without the consent of the station licensee unless, in the judgment of the commission, such changes will promote public convenience or interest or will serve public necessity or the provisions of this Act will be more fully complied with;

(g) Have authority to establish areas or zones to be served by any station;

(h) Have authority to make special regulations applicable to radio stations engaged in chain broadcasting;

(i) Have authority to make general rules and regulations requiring stations to keep such records of programs, transmissions of energy, communications, or signals as it may deem desirable;

(j) Have authority to exclude from the requirements of any regulations in whole or in part any radio station upon railroad rolling stock, or to modify such regulations in its discretion;

(k) Have authority to hold hearings, summon witnesses, administer oaths, compel the production of books, documents, and papers and to make such investigations as may be necessary in the performance of its duties. The commission may make such

expenditures (including expenditures for rent and personal services at the seat of government and elsewhere, for law books, periodicals, and books of reference, and for printing and binding) as may be necessary for the execution of the functions vested in the commission and, as from time to time may be appropriated for by Congress. All expenditures of the commission shall be allowed and paid upon the presentation of itemized vouchers therefor approved by the chairman.

SEC. 5. From and after one year after the first meeting of the commission created by this Act, all the powers and authority vested in the commission under the terms of this Act, except as to the revocation of licenses, shall be vested in and exercised by the Secretary of Commerce; except that thereafter the commission shall have power and jurisdiction to act upon and determine any and all matters brought before it under the terms of this section.

It shall also be the duty of the Secretary of Commerce—

(A) For and during a period of one year from the first meeting of the commission created by this Act, to immediately refer to the commission all applications for station licenses or for the renewal or modification of existing station licenses.

(B) From and after one year from the first meeting of the commission created by this Act, to refer to the commission for its action any application for a station license or for the renewal or modification of any existing station license as to the granting of which dispute, controversy, or conflict arises or against the granting of which protest is filed within ten days after the date of filing said appli-

cation by any party in interest and any application as to which such reference is requested by the applicant at the time of filing said application.

(C) To prescribe the qualifications of station operators, to classify them according to the duties to be performed, to fix the forms of such licenses, and to issue them to such persons as he finds qualified.

(D) To suspend the license of any operator for a period not exceeding two years upon proof sufficient to satisfy him that the licensee (a) has violated any provision of any Act or treaty binding on the United States which the Secretary of Commerce or the commission is authorized by this Act to administer or by any regulation made by the commission or the Secretary of Commerce under any such Act or treaty; or (b) has failed to carry out the lawful orders of the master of the vessel on which he is employed; or (c) has willfully damaged or permitted radio apparatus to be damaged; or (d) has transmitted superfluous radio communications or signals or radio communications containing profane or obscene words or language; or (e) has willfully or maliciously interfered with any other radio communication or signals.

(E) To inspect all transmitting apparatus to ascertain whether in construction and operation it conforms to the requirements of this Act, the rules and regulations of the licensing authority, and the license under which it is constructed or operated.

(F) To report to the commission from time to time any violations of this Act, the rules, regulations, or orders of the commission, or of the terms or conditions of any license.

(G) To designate call letters of all stations.

(H) To cause to be published such call letters and such other announcements and data as in his judgment may be required for the efficient operation of radio stations subject to the jurisdiction of the United States and for the proper enforcement of this Act.

The Secretary may refer to the commission at any time any matter the determination of which is vested in him by the terms of this Act.

Any person, firm, company, or corporation, any State or political division thereof aggrieved or whose interests are adversely affected by any decision, determination, or regulation of the Secretary of Commerce may appeal therefrom to the commission by filing with the Secretary of Commerce notice of such appeal within thirty days after such decision or determination or promulgation of such regulation. All papers, documents, and other records pertaining to such application on file with the Secretary shall thereupon be transferred by him to the commission. The commission shall hear such appeal de novo under such rules and regulations as it may determine.

Decisions by the commission as to matters so appealed and as to all other matters over which it has jurisdiction shall be final, subject to the right of appeal herein given.

No station license shall be granted by the commission or the Secretary of Commerce until the applicant therefor shall have signed a waiver of any claim to the use of any particular frequency or wave length or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise

* * * * *

SEC. 9. The licensing authority, if public convenience, interest, or necessity will be served thereby, subject to the limitations of this Act, shall grant to any applicant therefor a station license provided for by this Act.

In considering applications for licenses and renewals of licenses, when and in so far as there is a demand for the same, the licensing authority shall make such a distribution of licenses, bands of frequency of wave lengths, periods of time for operation, and of power among the different States and communities as to give fair, efficient, and equitable radio service to each of the same.

No license granted for the operation of a broadcasting station shall be for a longer term than three years and no license so granted for any other class of station shall be for a longer term than five years, and any license granted may be revoked as hereinafter provided. Upon the expiration of any license, upon application therefor, a renewal of such license may be granted from time to time for a term of not to exceed three years in the case of broadcasting licenses and not to exceed five years in the case of other licenses.

No renewal of an existing station license shall be granted more than thirty days prior to the expiration of the original license.

SEC. 10. The licensing authority may grant station licenses only upon written application therefor addressed to it. All applications shall be filed with the Secretary of Commerce. All such applications shall set forth such facts as the licensing authority by regulation may prescribe as to the citizenship, character, and financial, technical, and other qualifications of the applicant to operate the station; the

ownership and location of the proposed station and of the stations, if any, with which it is proposed to communicate; the frequencies or wave lengths and the power desired to be used; the hours of the day or other periods of time during which it is proposed to operate the station; the purposes for which the station is to be used; and such other information as it may require. The licensing authority at any time after the filing of such original application and during the term of any such license may require from an applicant or licensee further written statements of fact to enable it to determine whether such original application should be granted or denied or such license revoked. Such application and/or such statement of fact shall be signed by the applicant and/or licensee under oath or affirmation.

The licensing authority in granting any license for a station intended or used for commercial communication between the United States or any Territory or possession, continental or insular, subject to the jurisdiction of the United States, and any foreign country, may impose any terms, conditions, or restrictions authorized to be imposed with respect to submarine-cable licenses by section 2 of an Act entitled "An Act relating to the landing and the operation of submarine cables in the United States," approved May 24, 1921.

SEC. 11. If upon examination of any application for a station license or for the renewal or modification of a station license the licensing authority shall determine that public interest, convenience, or necessity would be served by the granting thereof, it shall authorize the issuance, renewal, or modification thereof in accordance with said finding. In the event the licensing authority upon examination of

any such application does not reach such decision with respect thereto, it shall notify the applicant thereof, shall fix and give notice of a time and place for hearing thereon, and shall afford such applicant an opportunity to be heard under such rules and regulations as it may prescribe.

Such station licenses as the licensing authority may grant shall be in such general form as it may prescribe, but each license shall contain, in addition to other provisions, a statement of the following conditions to which such license shall be subject:

(A) The station license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies or wave length designated in the license beyond the term thereof nor in any other manner than authorized therein.

(B) Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of this Act.

(C) Every license issued under this Act shall be subject in terms to the right of use or control conferred by section 6 hereof.

In cases of emergency arising during the period of one year from and after the first meeting of the commission created hereby, or on applications filed during said time for temporary changes in terms of licenses when the commission is not in session and prompt action is deemed necessary, the Secretary of Commerce shall have authority to exercise the powers and duties of the commission, except as to revocation of licenses, but all such exercise of powers shall be promptly reported to the members of the commission, and any action by the Secretary authorized under this paragraph shall continue in

force and have effect only until such time as the commission shall act thereon.

* * * * *

SEC. 14. Any station license shall be revocable by the commission for false statements either in the application or in the statement of fact which may be required by section 10 hereof, or because of conditions revealed by such statements of fact as may be required from time to time which would warrant the licensing authority in refusing to grant a license on an original application, or for failure to operate substantially as set forth in the license, for violation of or failure to observe any of the restrictions and conditions of this Act, or of any regulation of the licensing authority authorized by this Act or by a treaty ratified by the United States, or whenever the Interstate Commerce Commission, or any other Federal body in the exercise of authority conferred upon it by law, shall find and shall certify to the commission that any licensee bound so to do, has failed to provide reasonable facilities for the transmission of radio communications, or that any licensee has made any unjust and unreasonable charge, or has been guilty of any discrimination, either as to charge or as to service or has made or prescribed any unjust and unreasonable classification, regulation, or practice with respect to the transmission of radio communications or service: *Provided,* That no such order of revocation shall take effect until thirty days' notice in writing thereof, stating the cause for the proposed revocation, has been given to the parties known by the commission to be interested in such license. Any person

in interest aggrieved by said order may make written application to the commission at any time within said thirty days for a hearing upon such order, and upon the filing of such written application said order of revocation shall stand suspended until the conclusion of the hearing herein directed. Notice in writing of said hearing shall be given by the commission to all the parties known to it to be interested in such license twenty days prior to the time of said hearing. Said hearing shall be conducted under such rules and in such manner as the commission may prescribe. Upon the conclusion hereof the commission may affirm, modify, or revoke said orders of revocation.

* * * * *

SEC. 16. Any applicant for a construction permit, for a station license, or for the renewal or modification of an existing station license whose application is refused by the licensing authority shall have the right to appeal from said decision to the Court of Appeals of the District of Columbia; and any licensee whose license is revoked by the commission shall have the right to appeal from such decision of revocation to said Court of Appeals of the District of Columbia or to the district court of the United States in which the apparatus licensed is operated, by filing with said court, within twenty days after the decision complained of is effective, notice in writing of said appeal and of the reasons therefor.

The licensing authority from whose decision an appeal is taken shall be notified of said appeal by service upon it, prior to the filing thereof, of a certified copy of said appeal and of the reasons therefor. Within twenty days after the filing of said appeal the licensing authority shall file with the court the

originals or certified copies of all papers and evidence presented to it upon the original application for a permit or license or in the hearing upon said order of revocation, and also a like copy of its decision thereon and a full statement in writing of the facts and the grounds for its decision as found and given by it. Within twenty days after the filing of said statement by the licensing authority either party may give notice to the court of his desire to adduce additional evidence. Said notice shall be in the form of a verified petition stating the nature and character of said additional evidence, and the court may thereupon order such evidence to be taken in such manner and upon such terms and conditions as it may deem proper.

At the earliest convenient time the court shall hear, review, and determine the appeal upon said record and evidence, and may alter or revise the decision appealed from and enter such judgment as to it may seem just. The revision by the court shall be confined to the points set forth in the reasons of appeal.

* * * * *

SEC. 21. No license shall be issued under the authority of this Act for the operation of any station the construction of which is begun or is continued after this Act takes effect, unless a permit for its construction has been granted by the licensing authority upon written application therefor. The licensing authority may grant such permit if public convenience, interest, or necessity will be served by the construction of the station. This application shall set forth such facts as the licensing authority by regulation may prescribe as to the citizenship, character, and the financial, technical, and other

ability of the applicant to construct and operate the station, the ownership and location of the proposed station and of the station or stations with which it is proposed to communicate, the frequencies and wave length or wave lengths desired to be used, the hours of the day or other periods of time during which it is proposed to operate the station, the purpose for which the station is to be used, the type of transmitting apparatus to be used, the power to be used, the date upon which the station is expected to be completed and in operation, and such other information as the licensing authority may require. Such application shall be signed by the applicant under oath or affirmation.

Such permit for construction shall show specifically the earliest and latest dates between which the actual operation of such station is expected to begin, and shall provide that said permit will be automatically forfeited if the station is not ready for operation within the time specified or within such further time as the licensing authority may allow, unless prevented by causes not under the control of the grantee. The rights under any such permit shall not be assigned or otherwise transferred to any person, firm, company, or corporation without the approval of the licensing authority. A permit for construction shall not be required for Government stations, amateur stations, or stations upon mobile vessels, railroad rolling stock, or aircraft. Upon the completion of any station for the construction or continued construction for which a permit has been granted, and upon it being made to appear to the licensing authority that all the terms, conditions, and obligations set forth in the application and permit have been fully met, and that no

cause or circumstance arising or first coming to the knowledge of the licensing authority since the granting of the permit would, in the judgment of the licensing authority, make the operation of such station against the public interest, the licensing authority shall issue a license to the lawful holder of said permit for the operation of said station. Said license shall conform generally to the terms of said permit.

* * * * *

SEC. 32. Any person, firm, company, or corporation failing or refusing to observe or violating any rule, regulation, restriction, or condition made or imposed by the licensing authority under the authority of this Act or of any international radio convention or treaty ratified or adhered to by the United States, in addition to any other penalties provided by law, upon conviction thereof by a court of competent jurisdiction, shall be punished by a fine of not more than $500 for each and every offense.

SEC. 33. Any person, firm, company, or corporation who shall violate any provision of this Act, or shall knowingly make any false oath or affirmation in any affidavit required or authorized by this Act, or shall knowingly swear falsely to a material matter in any hearing authorized by this Act, upon conviction thereof in any court of competent jurisdiction shall be punished by a fine of not more than $5,000 or by imprisonment for a term of not more than five years or both for each and every such offense.

* * * * *

SEC. 39. The Act entitled "An Act to regulate radio communication," approved August 13, 1912,

the joint resolution to authorize the operation of Government-owned radio stations for the general public, and for other purposes, approved June 5, 1920, as amended, and the joint resolution entitled "Joint resolution limiting the time for which licenses for radio transmission may be granted, and for other purposes," approved December 8, 1926, are hereby repealed.

Such repeal, however, shall not affect any act done or any right accrued or any suit or proceeding had or commenced in any civil cause prior to said repeal, but all liabilities under said laws shall continue and may be enforced in the same manner as if committed; and all penalties, forfeitures, or liabilities incurred prior to taking effect hereof, under any law embraced in, changed, modified, or repealed by this Act, may be prosecuted and punished in the same manner and with the same effect as if this Act had not been passed.

Nothing in this section shall be construed as authorizing any person now using or operating any apparatus for the transmission of radio energy or radio communications or signals to continue such use except under and in accordance with this Act and with a license granted in accordance with the authority hereinbefore conferred.

SEC. 40. This Act shall take effect and be in force upon its passage and approval, except that for and during a period of sixty days after such approval no holder of a license or an extension thereof issued by the Secretary of Commerce under said Act of August 13, 1912, shall be subject to the penalties provided herein for operating a station without the license herein required.

SEC. 41. This Act may be referred to and cited as the Radio Act of 1927.

Approved, February 23, 1927.

APPENDIX B

[PUBLIC—NO. 195—70TH CONGRESS]

[S. 2317]

An Act Continuing for one year the powers and authority of the Federal Radio Commission under the Radio Act of 1927, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all the powers and authority vested in the Federal Radio Commission by the Radio Act of 1927, approved February 23, 1927, shall continue to be vested in and exercised by the commission until March 16, 1929; and wherever any reference is made in such Act to the period of one year after the first meeting of the commission, such reference shall be held to mean the period of two years after the first meeting of the commission.

* * * * *

SEC. 3. Prior to January 1, 1930, the licensing authority shall grant no license or renewal of license under the Radio Act of 1927 for a broadcasting station for a period to exceed three months and no license or renewal of license for any other class of station for a period to exceed one year.

* * * * *

SEC. 5. The second paragraph of section 9 of the Radio Act of 1927 is amended to read as follows:

> It is hereby declared that the people of all the zones established by section 2 of this Act are entitled to equality of radio broadcasting service, both of transmission and of recep-

tion, and in order to provide said equality the licensing authority shall as nearly as possible make and maintain an equal allocation of broadcasting licenses, of bands of frequency or wave lengths, of periods of time for operation, and of station power, to each of said zones when and in so far as there are applications therefor; and shall make a fair and equitable allocation of licenses, wave lengths, time for operation, and station power to each of the States, the District of Columbia, the Territories and possessions of the United States, within each zone, according to population. The licensing authority shall carry into effect the equality of broadcasting service hereinbefore directed, whenever necessary or proper, by granting or refusing licenses or renewals of licenses, by changing periods of time for operation, and by increasing or decreasing station power, when applications are made for licenses or renewals of licenses: *Provided,* That if and when there is a lack of applications from any zone for the proportionate share of licenses, wave lengths, time of operation, or station power to which such zone is entitled, the licensing authority may issue licenses for the balance of the proportion not applied for from any zone, to applicants from other zones for a temporary period of ninety days each, and shall specifically designate that said apportionment is only for said temporary period. Allocations shall be charged to the

State, District, Territory, or possession wherein the studio of the station is located and not where the transmitter is located.

Approved, March 28, 1928.

APPENDIX C

[PUBLIC—No. 1029—70TH CONGRESS]

[H. R. 15430]

An Act Continuing the powers and authority of the Federal Radio Commission under the Radio Act of 1927, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all the powers and authority vested in the Federal Radio Commission by the Radio Act of 1927, approved February 23, 1927, shall continue to be vested in and exercised by the commission until December 31, 1929; and wherever any reference is made in such Act to the period of one year after the first meeting of the commission, such reference shall be held to mean the period until December 31, 1929.

* * * * *

SEC. 3. Prior to January 1, 1931, the licensing authority shall grant no license or renewal of license under the Radio Act of 1927 for a broadcasting station for a period to exceed three months and no license or renewal of license for any other class of station for a period to exceed one year.

* * * * *

Approved, March 4, 1929.

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No. 122

In the Supreme Court of the United States

OCTOBER TERM, 1929

FEDERAL RADIO COMMISSION, PETITIONER

v.

GENERAL ELECTRIC COMPANY AND PEOPLE OF THE STATE OF NEW YORK

ON WRIT OF CERTIORARI TO THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA

BRIEF FOR PETITIONER

BETHUEL M. WEBSTER, JR.,
General Counsel.
PAUL M. SEGAL,
Assistant General Counsel.

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38 Stat. 717	6
41 Stat. 305	6
43 Stat. 938	2
44 Stat. 917	45
44 Stat. 1162	1
45 Stat. 373	1
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In the Supreme Court of the United States

OCTOBER TERM, 1929

No. 122

FEDERAL RADIO COMMISSION, PETITIONER

v.

GENERAL ELECTRIC COMPANY AND PEOPLE OF THE State of New York

ON WRIT OF CERTIORARI TO THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA

OPINION BELOW

The opinion of the Court of Appeals of the District of Columbia is reported in 31 F. (2d) 630. (R. 386.)

THE STATUTES

The statutes involved are the Radio Act of 1927 (44 Stat. 1162), the Amendatory Act of March 28, 1928 (45 Stat. 373), and the Amendatory Act of March 4, 1929 (45 Stat. 1559). These statutes are set out in Appendices A, B, and C, pages 113, 143, and 145 of this brief.

JURISDICTION

I

THE PROCEEDINGS

The judgment of the Court of Appeals was entered February 25, 1929 (rehearing denied March 9, 1929), in three causes numbered and entitled on the docket of that court as follows: No. 4870, *General Electric Company, Appellant,* v. *Federal Radio Commission;* No. 4871, *The People of the State of New York, Appellants,* v. *Federal Radio Commission;* and No. 4880, *General Electric Company, Appellant,* v. *Federal Radio Commission.* (R. 392, 393.)

These three causes were appeals from a single decision of the Commission made and entered October 12, 1928, relating to an application for renewal of license by General Electric Company, a New York Corporation, to operate its broadcasting station, WGY, at Schenectady, New York. The three causes were heard and treated as one cause by the Court of Appeals, on a consolidated record, and the one judgment above mentioned was entered as that court's judgment in all three causes.

Petition for writ of certiorari was filed June 1, 1929, and was granted October 14, 1929. (R. 395.) The jurisdiction of this Court rests on Section 240 (a) of the Judicial Code as amended by Act of February 13, 1925. (43 Stat. 938.)

II

THE COURT OF APPEALS IS A JUDICIAL TRIBUNAL UNDER SECTION 16 OF THE RADIO ACT OF 1927

The power of the Court of Appeals to review a decision of the Commission is derived from Section 16 of the Radio Act of 1927. (Appendix A, p. 129.) The court is empowered to hear, review, and determine an appeal upon the record and evidence, and it may alter or revise the decision appealed from and enter such judgment as to it may seem just. The revision by the court must be confined to the points set forth in the reasons of appeal, but the court is permitted, upon the petition of either party, to order the taking of additional evidence in such manner and upon such terms and conditions as it may deem proper.

The Commission believes the Court of Appeals exercises a form of judicial review under Section 16, and it has contended from the beginning that no administrative or legislative authority is conferred on that court by the Radio Act of 1927, as amended. The Commission therefore submits the Supreme Court has jurisdiction on writ of certiorari to consider and to reverse or affirm or modify any judgment of the Court of Appeals relating to any decision of the Commission. It is the Commission's position that decisions of this court in such cases as *Keller at al.* v. *Potomac Electric Power Company et al.*, 261 U. S. 428, and *Postum Cereal Company* v. *California Fig Nut Company*, 272 U.

S. 693, are inapplicable in this situation—cases upon the authority of which the Court of Appeals denied a stay of its mandate upon the application to this Court for writ of certiorari. (R. 394.)

The Commission believes Section 16 permits the Court of Appeals "to consider all relevant questions of constitutional power or right and all pertinent questions whether the administrative order is within the statutory authority, or is an attempted exercise of it so unreasonable as not to be within it; but these are questions of law only. *Interstate Commerce Commission* v. *Illinois Central R. R. Co.*, 215 U. S. 452, 470. Of course the consideration and decision of questions of law may involve a consideration of controverted facts to determine what the question of law is, but it is settled that any finding of facts by the Commission if supported by evidence is final and conclusive on the courts. *Interstate Commerce Commission* v. *Union Pacific R. R. Co.*, 222 U. S. 541, 547." (Opinion of Mr. Chief Justice Taft in *Keller et al.* v. *Potomac Electric Power Company et al.*, 261 U. S. 428, 442.) See also *People of the State of New York ex rel. New York and Queens Gas Company* v. *McCall et al.*, 245 U. S. 345.

The mere fact the Court of Appeals has been invested with supervision over the Commission's decisions, as distinguished from District Courts or Circuit Courts of Appeals, does not necessitate the conclusion it was intended to give the Court of Appeals administrative or legislative powers. See

Federal Trade Commission v. *Klesner*, 274 U. S. 145; *Old Colony Trust Company et al.* v. *Commissioner of Internal Revenue*, 279 U. S. 716, 722.

Section 16 provides an appeal to the Court of Appeals from a decision of the Commission refusing an application for construction permit, for station license, or for the renewal or modification of station license; it also allows an appeal from a decision of revocation of license to District Courts of the United States as well as to the Court of Appeals. Whether an appeal is taken to the Court of Appeals from a decision refusing an application, or to a District Court from a decision of revocation, the procedure is exactly the same, including the provision for additional evidence and the scope of the judgment which may be entered by the appellate tribunal. Congress must have acted with reference to the law established in *Keller et al.* v. *Potomac Electric Power Company et al., supra,* and *Ex Parte Bakelite Corporation*, 279 U. S. 438; for it is manifestly impossible to confer administrative or legislative powers on a District Court. If section 16 is open to a construction consistent with the Constitution, that construction must be followed.

In its decisions and regulations the Commission is governed by the statutory standard of public interest, convenience, and necessity, and it is inconceivable Congress intended such decisions or regulations should be subject to administrative or legislative revision by the Court of Appeals. In creating a body of experts, equipped with special facili-

ties and knowledge to collect and apply the relevant facts with reference to the statutory standard, Congress must have intended the rulings of the Commission should be binding, unless, as a matter of law, such rulings are arbitrary or mistaken. See *Federal Trade Commission* v. *Gratz et al.*, 253 U. S. 421; *Federal Trade Commission* v. *Curtis Publishing Company*, 260 U. S. 568.

There is a striking parallelism between the powers conferred on the Court of Appeals by Section 16 and the powers of Circuit Courts of Appeals under Section 5 of the Federal Trade Commission Act (38 Stat. 717). As stated in *Federal Trade Commission* v. *Curtis Publishing Company*, 260 U. S. 568, 580, the language of the statute is broad, including provisions for taking additional testimony and giving the Circuit Courts of Appeals power to affirm, modify, or set aside the orders of the Commission, and yet the Act confers no administrative or legislative authority on the reviewing tribunal. *Federal Trade Commission* v. *Eastman Kodak Company et al.*, 274 U. S. 619.

District Courts are invested with similar powers under the National Prohibition Act (41 Stat. 305). *Ma-King Products Company* v. *Blair*, 271 U. S. 479; *Smith et al.* v. *Foster et al.*, 15 F. (2d) 115 (D. C., S. D. N. Y., 1926).

The patent cases, e. g., *United States* v. *Duell*, 172 U. S. 576, and *Butterworth* v. *U. S. ex rel. Hoe et al.*, 112 U. S. 50, are not germane; for they involve appellate provisions dissimilar to Section 16.

In drafting Section 16, it is evident Congress followed to some extent the statute involved in the patent cases, namely, the Act of July 8, 1870, permitting an appeal to the Supreme Court of the District of Columbia from decisions of the Commissioner of Patents. But there is an important difference in language. The Act of July 8, 1870 (16 Stat. 205), provides:

> * * * And after hearing the case, the court shall return to the commissioner a certificate of its proceedings and decision, which shall be entered of record in the patent office, and govern the further proceedings in the case. But no opinion or decision of the court in any such case shall preclude any person interested from the right to contest the validity of such patent in any court wherein the same may be called in question.

It is clear from the foregoing the appeal thus given from the decisions of the Commissioner of Patents is merely one step in the statutory proceedings under the patent laws whereby that tribunal is interposed in aid of the Patent Office, though not subject to it. *Butterworth* v. *U. S. ex rel. Hoe et al.*, 112 U. S. 50, 60.

III

THE COURT OF APPEALS ACTED IN A JUDICIAL CAPACITY IN THESE CAUSES

It is apparent the Court of Appeals proceeded on the assumption it is an administrative tribunal,

for the language of the opinion is carefully chosen to indicate its decision is confined to error of the Commission in applying the statutory standard of public interest, convenience, or necessity to the facts before it. (R. 386.) The discussion under the heading "Statement" (Brief, p. 9) will show the Court of Appeals, in the first instance, without recourse to the evidence before the Commission (for there was no hearing and no evidence), undertook to apply the statutory standard on the basis of the facts and considerations submitted for the first time on the appeals.

Because General Electric Company violated fundamental regulations of the Commission it was denied a hearing; there was no finding by the Commission that operation of WGY would not serve the public interest. The Court of Appeals, in accepting and deciding the appeals with reference to the statutory standard, necessarily invalidated the Commission's regulations relating to its allocation of broadcasting facilities and its procedure. Such regulations have the force of law. *United States* v. *Eaton,* 144 U. S. 677; *United States* v. *Grimaud,* 220 U. S. 506. Holding regulations of the Commission invalid is an exercise of a judicial function. *United States ex rel. Steinmetz* v. *Allen,* 192 U. S. 543; *Smoot* v. *Heyl,* 227 U. S. 518; *United States* v. *Antikamnia Chemical Company,* 231 U. S. 654.

Moreover, the Court of Appeals assessed costs against the Commission. (R. 393.) That a judgment for costs is a judicial function based on ex-

press statutory authority, see *Tesla Electric Co.* v. *Scott et al.*, 101 Fed. 524 (C. C., E. D. P., 1900).

On November 9, 1929, acting presumably under Section 11 of the Act of February 9, 1893 (27 Stat. 436), creating the Court of Appeals, a remedial prerogative writ was issued staying the action of the Commission pending a determination of the first two appeals, Nos. 4870 and 4871. (R. 380.) That a prerogative writ in aid of appellate jurisdiction is a judicial function, see *In Re McFarland,* 30 App. D. C. 365, 390.

STATEMENT

(An explanation of the technical terms and considerations is contained in Appendix D, Brief, p. 146. See also R. 343–363 for a more detailed statement of certain scientific considerations.)

General Electric Company, a New York Corporation, owns and operates broadcasting stations WGY, at Schenectady, New York, KGO, at Oakland, California, and KOA, at Denver, Colorado. Prior to February 23, 1927, these stations were operated under licenses from the Secretary of Commerce issued under the Radio Act of 1912 (Act of August 13, 1912, c. 287, 37 Stat. 302). After February 23, 1927, said stations were operated under successive licenses from the Federal Radio Commission.

For several years prior to November 1, 1927, the Company operated WGY under licenses authorizing the use of the frequency of 790 kc. on a division of time with Station WHAZ, a station at Troy, New York. The power utilized by WGY had

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varied, but shortly before November 1, 1927, it was authorized to use 50 kw. On November 1, 1927, a license was issued permitting full time operation on 790 kc. with power of 50 kw. for the period from November 1, 1927, to December 31, 1927. This license was extended by successive orders of the Commission for short periods of time (never more than 60 days) until November 11, 1928, when it finally expired. On January 14, 1928, the Company filed an application for renewal of its license. (R. 90-95.)

On August 30, 1928, the Commission adopted certain regulations and embodied them in its General Order 40. (R. 100–103.) By this order the Commission recognized the existing practice by setting aside and assigning the band of frequencies between 550 and 1500 kc. for the use of broadcasting stations and prescribed a separation of 10 kc. between the frequencies used within said band by broadcasting stations. It designated 6 of the total of 96 channels thus created for exclusive use by Canadian stations and 11 more of said channels for shared use by Canadian stations and stations in the United States with restrictions on the power to be used on such channels. It furthermore classified the 90 channels (exclusive of the 6 channels reserved for Canadian use) into various classes with restrictions as to the number of stations which might operate simultaneously on any particular channel and the power that might be used on each

class of channel. 40 specific channels were designated as what are popularly known as "cleared channels" with the provision that only one station would be permitted to operate on any such channel at any time during night hours. (R. 104). These 40 cleared channels were allocated equally among the five zones into which the country is divided by Section 2 of the Radio Act of 1927, 8 specific channels to each zone. The frequency of 790 kc. was designated as a cleared channel and assigned to the Fifth Zone.

Thereafter the Commission prepared an allocation of all existing broadcasting stations (approximately 650 in number) in accordance with General Order 40, specifying the frequency, power, and hours of operation to be designated for use by such stations during the license period beginning November 11, 1928. This allocation was tentatively approved September 8, 1928, at a regular meeting of the Commission. (R. 105–108.) At the same time the Commission adopted a course of procedure which, among other things, provided a method for dissatisfied stations to seek modification of their respective assignments and for hearings on request.

The tentative designation of facilities for use by WGY was as follows: frequency, 790 kc.; power, 50 kw.; hours of operation, "limited." The tentative designation for KGO, at Oakland, California, another station of General Electric Company, was as follows: frequency, 790 kc.; power, 10 kw.; hours of operation, unlimited. No other station was as-

signed to said frequency. The meaning of the term "limited" had not then been crystallized in formal regulations, although its meaning was conveyed to and understood by General Electric Company. Its meaning was crystallized in a formal regulation in the Commission's General Order 48, adopted October 24, 1928, together with its General Order 41, adopted September 4, 1928. (R. 109–110, 111–112.) As applied to WGY the term "limited" meant it would not be permitted to operate after sunset at Oakland, California, except with consent of KGO to a curtailment of time. As hereinafter explained, this would have permitted WGY to operate daily all day and up to 10.00 p. m. (and during 3 months of the year even later) or condition only that KGO close down for an average of 51 minutes daily before 7.00 p. m.

On September 11, 1928, the Commission sent all broadcasting stations, including WGY, a copy of the tentative allocation of September 8, 1928, together with a statement incorporating and explaining the procedure to be followed by dissatisfied stations desiring a modification of assignment. (R. 112–114.) Among other things, the prescribed procedure called for the filing of an application specifying what frequency, power, and hours of operation were desired by the applicant and specifying that—

> no application will be entertained which fails to comply with this requirement.

Provision was made for notice to all other broadcasting stations directly interested and a hearing on the application.

On September 15, 1928, General Electric Company asked for the forms to be used in making such application, and on September 19, 1928, the Commission sent such forms to it. Representatives of the Commission and the Company engaged in verbal conferences and exchange of letters. (R. 116–125.) On October 5, 1928, the Company filed an application for modification of its assignment. (R. 125–129.) Instead of requesting one of the 8 cleared channels available for use in evening operation by stations of the First Zone, the Company asked for full time on the frequency of 790 kc. and, in addition, asked for power of 150 kw., which was 100 kw. in excess of the maximum permitted under the regulations of the Commission incorporated in its General Order 42. (R. 110–111.) At a regular meeting held October 12, 1928, the Commission denied said application on the ground it was inconsistent with General Order 40. (R. 161.) On October 13 or 14, 1928, the Company received informal notice of this decision, and on October 17, 1928, formal notice was sent. (R. 161.)

On October 12, 1928, at a regular meeting of the Commission, the Commission again considered the allocation, which had been revised in certain respects not material to WGY or KGO or the frequency of 790 kc. After approving said revised

allocation, the Commission proceeded to consider the applications for renewal pending before it, including the application filed January 14, 1928, by General Electric Company with respect to WGY. The Commission took the following action with reference to said application for renewal:

> 1. That to each broadcasting station listed in said revised allocation which has an application for renewal of its license pending before the Commission, a renewal license be issued for the frequency, power, and hours of operation indicated in said revised allocation. * * *
>
> 4. That each license or renewal license issued under the foregoing directions be so worded as to take effect on November 11th at the hour of three o'clock a. m., Eastern Standard Time, and to terminate on January 31, 1929, at the hour of three o'clock a. m., Eastern Standard Time.

The revised allocation with reference to which the Commission made the foregoing decision is set forth in full in the record. (R. 134–160.) With regard to WGY it indicated it would be authorized to use 790 kc. with power of 50 kw. on a "limited" time basis. With regard to KGO it indicated it would be authorized to use 790 kc. with power of 10 kw. on a full time basis. On October 17, 1928, pursuant to said decision, the Commission issued a license to General Electric Company for operation

of WGY. (R. 188–189.) Among other things it purports to cover—

> the term beginning at 3.00 a. m. November 11, 1928, and ending 3.00 a. m. January 31, 1929, Eastern Standard Time;

and further provides—

> The authorized frequency or wave length, maximum power, call letters, and time of operation are as follows:
>
> Frequency, 790 kc. * * * power output, 25,000 watts and 25,000 additional watts on experimental basis; * * * time of operation, limited.

In the meantime, through verbal negotiations and correspondence passing between General Electric Company and the Commission, it had been made clear that with respect to hours of operation WGY might, under its new assignment, operate throughout all daylight hours and every evening up until 10.00 p. m., on condition only that Station KGO cease operation between sunset at Oakland, California, and 7.00 p. m. during those months when sunset at Oakland, California, occurs prior to 7.00 p. m., an average daily curtailment throughout the year of 51 minutes. A majority of the Commission bound itself to approve this arrangement in a letter mailed to the Company September 25, 1928 (R. 117–119) and confirmed by other correspondence set forth in the record (R. 119–124). During the period between October 18 and October 31, 1928,

correspondence passed back and forth between the Company and the Commission (R. 164–188) in which the reasons for the Commission's action of October 12, 1928, were explained in detail by the Commission, as they had previously been explained verbally, and the Company was advised that—

> * * * there is no difficulty in the way of obtaining a hearing, provided you file a new application which is in compliance with the very reasonable requirements made by the Commission. * * *
>
> To obtain a hearing all you have to do is file a new application specifying a channel which is available to the first zone, and an amount of power which is permitted under General Order 42. (R. 164, 165.)

The Company at all times failed and refused to file such an application.

On October 23, 1928, General Electric Company, in spite of the fact that it had previously applied for renewal of its license on January 14, 1928, and said application had been enacted upon by the Commission on October 12, 1928, filed another "application for renewal" of said license. (R. 206–216.) In this application it again requested 790 kc. or—

> an equivalent frequency which will enable it to continue the service which it has rendered in the past. The General Electric Company will also accept a power assignment equal to the maximum allowed any other station. (R. 213.)

To this application the Company attached a large number of documents, letters, and affidavits, part of which in condensed form are set forth in the record. (R. 216–269.) Upon receipt of this application the Commission wrote a letter to the Company October 24, 1928 (R. 169–171) in which it was explained that the previous application had already been acted upon and also the following:

> I assume that what you really desire is a modification of your new frequency assignment under the allocation recently announced. * * * If you will file an application for modification specifying a frequency which has been assigned to the First Zone (assuming that you desire full time on a cleared channel), the Commission will entertain the application and grant you a hearing. * * * (R. 170–171.)

On the same day the People of the State of New York made an application to be heard with regard to WGY. The Commission answered said application October 25, 1928. (R. 172–181.)

On November 3, 1928, General Electric Company filed with the District Supervisor of Radio of the Department of Commerce in New York City a further application, this time on the form prescribed by the Commission for modification. (R. 270–281.) This application was received by the Commission November 5, 1928. In this application

the Company requested full-time operation on the frequency of—

> 790 kcs. or any frequency substantially equivalent to enable continuance of WGY's public service—

with 25,000 watts power and 25,000 watts additional on an experimental basis. (R. 271.) The application was accompanied by a letter from the Company, requesting a hearing on the application on either November 7 or 8, 1928. (R. 270.) Under the Commission's regulations governing the date of hearings, which regulations are set forth in General Order 37, adopted on August 22, 1928 (R. 98–99) and which were well known to General Electric Company, a hearing could not be held earlier than the expiration of a period of twenty days in order to permit other interested stations to be notified. Furthermore, this last application again defied the Commission's regulations by failing to specify a cleared channel available to stations in the First Zone.

Prior to any action by the Commission on either the application of October 23, 1928, or the application of November 3, 1928, General Electric Company filed with the Court of Appeals a notice of appeal in cause No. 4870, *General Electric Company, Applicant-Appellant,* v. *Federal Radio Commission,* which notice of appeal was as follows:

> Now comes the General Electric Company, applicant-appellant in the above-entitled pro-

> ceeding, and says that it is aggrieved by the decision of the Federal Radio Commission rendered herein against it on October 17, 1928, effective October 17, 1928, and gives notice of its appeal therefrom to the Court of Appeals of the District of Columbia, and assigns in support thereof the reasons for appeal hereinafter set forth.

To its notice of appeal the Company attached a long document entitled "Reasons for Appeal," the first three paragraphs only of which purported to state reasons for the appeal and the rest of which was devoted to "Facts and Proceedings which caused this Appeal." (R. 1–10.) Said document was executed and sworn to by one of the attorneys of record for the Company, and incorporated by reference a large number of documents, affidavits, and letters, including the several applications which General Electric Company had made to the Commission and the many letters and affidavits which accompanied its so-called "Application for Renewal" of October 23, 1928. The reasons for appeal alleged were in substance that the Commission had

> threatened to deprive the General Electric Company of its property right to use broadcasting facilities of Station WGY in full-time operation on a frequency of 790 kilocycles, or any frequency substantially equivalent;

also that the Commission had failed to serve public interest, convenience, or necessity

> in refusing to authorize continuance of the public service heretofore rendered by WGY;

had failed

> to afford General Electric Company an opportunity to be heard under reasonable rules and regulations with respect to its applications for continuance of broadcasting service;

and had

> otherwise failed to comply with the provisions of the Radio Act of February 23, 1927.

Said document also alleged with regard to General Order 40 that—

> The Commission has failed to provide a sufficient number of unlimited frequencies or channels. It has allocated forty such frequencies throughout the United States, eight frequencies for each of the five zones. At least fifty such frequencies should have been provided, etc. (R. 7.)

On the same day the People of the State of New York filed a notice of appeal in cause No. 4871, *The People of the State of New York, Appellants* v. *Federal Radio Commission,* accompanied by "Reasons for Appeal." (R. 10–13.) On the same day, November 9, 1928, the Court of Appeals, on motion of General Electric Company, entered an

order described as a "stay order" requiring the Commission to allow Station WGY to continue to operate with full time on 790 kc. during the pendency of the appeal. (R. 380.) The Court of Appeals likewise on the same day set the causes for oral argument on December 3, 1928.

On November 13, 1928, the Court of Appeals advised the Commission that because of matters then pending before it and an adjournment which the court was about to take, it would not be possible for that court to hear any motions which the Commission was planning to make with regard to said appeals and said stay order until the date set for oral argument on December 3, 1928, but that the Commission might file its motions in writing and the statement and record required of it by Section 16 of the Radio Act of 1927 without waiving any right it might have with respect to any of said motions.

On November 27, 1928, the Commission filed a written motion to dismiss the appeal in cause No. 4870 (R. 364–367), assigning, among other grounds, that the notice of appeal and of the reasons therefor was not filed within twenty days after the decision complained of was effective; that it did not appear from the document what decision was complained of, nor the nature of such decision, nor that it was an appealable decision under Section 16 of the Radio Act of 1927, and other reasons. The Commission likewise on the same day filed a writ-

ten motion in said cause to strike the notice of appeal and reasons therefor, and particularly that portion of the document following the first three paragraphs after the heading "Reasons for Appeal" (R. 368–370), assigning as grounds therefor that the portions specified were in the nature of evidence, did not constitute matters which the Commission was required to file in its record, and might be adduced only by verified petition and order of court, as provided in Section 16 of the Act. The Commission likewise on the same day filed a written motion in said cause to vacate the "stay order" of November 9, 1928 (R. 370–372), assigning as grounds, among others, that the Commission's decision was not susceptible or subject to a stay order, that the stay order was in effect a granting by the court to the General Electric Company of a license to engage in radio communication and, therefore, beyond the power of that court, and that the result of the stay order would be to deprive a large portion of the radio-listening public, particularly in the Fifth Zone, of radio broadcasting service.

On the same day the Commission filed in cause No. 4871 a written motion to dismiss the appeal (R. 376–378), assigning as grounds those which were set forth in the similar motion made in cause No. 4870 and the additional ground that the People of the State of New York did not come within the description of persons entitled to appeal under Section 16. Thereafter, on November 28, 1928, the

Commission, saving and reserving its rights under the aforesaid motions, filed the record required to be filed by it by said Section 16 and its full statement in writing of the facts and the grounds for its decision as found and given by it, a copy of which statement is set forth in the record (R. 23–48); and a copy of the record so required to be filed, condensed in accordance with stipulation of counsel, is set forth in the printed record (R. 54–204, 282–363). Because of the failure of General Electric Company to specify what decision it was complaining of and, further, because of its attack on the validity of General Order 40, the Commission included in said record documents bearing on its decision of October 12, 1928, on the first application for renewal of license, and its decision of the same day on the first application for modification, and also such documents and evidence as bore on the validity of General Order 40 and on the question as to whether the General Electric Company had had an opportunity for hearing.

On November 30, 1928, General Electric Company filed a second notice of appeal in cause No. 4880, *General Electric Company, Applicant-Appellant* v. *Federal Radio Commission,* as follows:

> Now, this 30th day of November, 1928, comes the General Electric Company, applicant-appellant in the above-entitled proceeding, and says that it is aggrieved by the decision of the Federal Radio Commission rendered on its application for renewal of

Radio Broadcasting Station License, for Station WGY, located near South Schenectady, County of Schenectady, State of New York, bearing date October 17, 1928, of which notice was sent this Applicant-appellant under date of October 27, 1928, and by it received October 29, 1928, which said decision became effective November 11, 1928, and constituted a refusal of said General Electric Company's application for renewal of existing station license theretofore issued to and at the time held by it; and the General Electric Company hereby gives notice of its appeal from the aforesaid decision to the Court of Appeals of the District of Columbia, and assigns in support thereof the reasons for appeal hereinafter set forth.

To the foregoing notice of appeal the Company attached a document entitled "Reasons for Appeal," which is an almost verbatim copy of the similar document filed on its first appeal, and was sworn to by another of its attorneys of record. (R. 22.) (R. 14–22.) In the course of oral argument on December 3, 1928, the Commission asked and obtained leave that its motion to dismiss and its motion to strike in cause No. 4870 be likewise considered as directed against the appeal of November 30, 1928, and later, on December 17, 1928, the Commission filed written motions to dismiss and to strike in said cause No. 4880 (R. 373–375, 379) in which the grounds assigned are similar to those in the previously filed motions. On December 19, 1928,

the Commission, reserving its rights with respect to said motions, filed its "Statement of Facts and Grounds for Decision" in said cause No. 4880 and the record required of it by Section 16 of the Radio Act of 1927, which record incorporated by reference certain but not all of the documents previously filed. (R. 52.)

On December 1, 1928, the Commission filed with the Court of Appeals a printed brief in said causes Nos. 4870 and 4871, and on December 3, 1928, General Electric Company and People of the State of New York each filed printed briefs, the Commission having had no knowledge of what was in said briefs when it prepared and filed its brief. Oral argument before the Court of Appeals was heard on December 3 and 4, 1928, and included argument on the Commission's above-described motions. The Commission in the course of oral argument made the further motion that General Electric Company be required to elect between its two appeals. The Court of Appeals took all of the Commission's motions under advisement, together with the merits of the case.

On December 13, 1928, General Electric Company filed with the Court of Appeals a printed brief in opposition to the Commission's several motions and on December 22, 1928, the Commission filed a reply brief thereto confined to the issues raised by said motions. The printing of the record in said

three causes was not completed until January 10, 1929. Under the rules of the Court of Appeals the appellant has a period of thirty days after the printing of the record in which to file briefs. General Electric Company did thereafter, on February 8, 1929, file its brief on the merits in said causes Nos. 4870 and 4880. Under the rules of the Court of Appeals the appellee has a further period of twenty days in which to reply to the appellant's brief. Pursuant to its rights under said rule the Commission completed the preparation of a brief on the merits in said causes and caused the same to be printed preparatory to filing. When the printing was practically half completed and three days before the brief was required to be filed, the Court of Appeals did, on February 25, 1929, render its decision and enter its judgment in all three of said causes.

On February 21, 1929, the Commission filed written motions in said court in both causes Nos. 4870 and 4880, renewing its motions to dismiss previously made and assigning as additional grounds that by virtue of the lapse of the maximum three months' license period after November 11, 1928, the questions involved in said causes had become moot questions; and that by reason of the requirements of Section 11 of the Radio Act of 1927, that the Commission determine with regard to each application for renewal of license whether the granting

thereof would serve public interest, convenience, or necessity, the Court of Appeals did not have power or jurisdiction to determine what the General Electric Company was entitled to after February 11, 1929. (R. 381–385.)

The judgment entered by the Court of Appeals on February 25, 1929, in all three of said causes was as follows:

> These causes came on to be heard on the transcript of the record from the Federal Radio Commission and were argued by counsel. On consideration whereof it is now here ordered and adjudged by this court that the appellant, the General Electric Company, was on November 11, 1928, and is now, entitled to receive from the Federal Radio Commission a renewal of its license to operate station WGY upon the same terms as those contained in the license dated November 1, 1928, to wit, upon 790 kilocycles with power of 50 kw., and without time limit for operation; and that this cause be, and the same is hereby, remanded to the Federal Radio Commission to carry this judgment into effect; costs to be assessed against the appelle. (R. 392, 393.)

(The opinion and judgment, R. 392, 393, state November 1, 1928, as the date of the license involved, whereas the actual date of said license was November 1, 1927. See R. 88–89, 17, 25.)

SUMMARY OF ARGUMENT

I

The Court of Appeals erroneously construed Section 16. None of the appeals involved herein was taken within 20 days of the Commission's decision, October 12, 1928. The Court of Appeals by implication (for it entertained and decided the appeals) took November 11, 1928, the effective date of the renewal license, as the date of the decision. The Commission believes its decision is the same as the judgment of a court, effective on the date of rendition, and that the appeals should have been dismissed for want of jurisdiction when filed more than 20 days thereafter.

The decision in question, relating to an application for renewal of license, was not appealable, since it was a renewal of license, though on somewhat different terms than those previously in force as to hours of operation. Renewal of license with slight restrictions on hours of operation is not equivalent to refusal of application. The Commission's decision merely limited the evening operation of WGY after time of sunset on the Pacific coast, or, according to a reasonable proposal of the Commission, after 10 p. m.

The appeals were moot at the time of the Court's decision, February 25, 1929, since if renewal had been granted for the maximum period permitted by law the license would have expired February

11, 1929. It was then the duty of the Commission, not the court, to consider whether renewal would then serve public interest.

The Court of Appeals relied in part on evidence submitted for the first time on appeal on affidavit of counsel. This form of introducing evidence is not allowed by the Act. There was no hearing before the Commission; the application of WGY was refused because of fatal defects appearing on the face thereof; and the Court of Appeals was not justified in substituting itself for the Commission in deciding, in the first instance, what the public interest required on the basis of evidence thus informally presented.

Section 16 does not permit the appeal of the People of the State of New York.

Assessment of costs against the Commission was error. It is not authorized by Act, and in the absence of express authority the taxpayers should not be compelled to pay the costs of General Electric Company and People of the State of New York.

II

The claim of a property right can not be sustained without holding the Act unconstitutional. The acquisition of property rights in the use of the ether is expressly precluded by specific provisions of the Act, e. g., Section 1, various portions of Section 4, the last paragraph of Section 5, the second paragraph of Section 11, Section 12, and the last

paragraph of Section 39. Moreover, in every application filed by General Electric Company, it has signed an express waiver in the language prescribed by Section 5. From the extended debates preceding the enactment of the Act, it is apparent Congress intended to negative any claim to a property right.

III

There is no property right, as against the regulatory power of the United States, to engage in broadcasting. In the court below respondent insisted there had been a violation of the Fifth Amendment; that it was deprived, or there had been a taking, of (a) the tangible physical property constituting WGY, and (b) established rights acquired by virtue of priority and use with reference to a specific frequency, power, and daily period of operation. Respondent did not enjoy the privilege of full-time operation before November 1, 1927. It has never *used* full time. Respondent has only recently had the use of a cleared channel with high power. Its transmitting apparatus is relatively new. It has only recently served the area and population it now claims the right to serve. Thus the basis for the claim a small curtailment of time resulting from the Commission's decision is tantamount to a taking of property is unsubstantial.

The Court of Appeals ignored respondent's claims under the Fifth Amendment and decided the

case on the ground the Commission erred in applying the statutory standard—although, for reasons within the control of respondent, the Commission had never had an opportunity to apply the standard.

Broadcasting is interstate commerce. *United States* v. *American Bond & Mortgage Co. et al.*, 31 F. (2d) 448 (D. C., N. D. Ill., 1929). The principles announced in the cases involving communication by wire make it clear they extend to communication by wireless. *Pensacola Telegraph Company* v. *Western Union Telegraph Company*, 96 U. S. 1. As to the regulation of radio communication, the power of Congress is exclusive. *The Minnesota Rate Cases*, 230 U. S. 252. Moreover, since radio communication is international in character and subject to treaties to which the United States is a party, the power of Congress to legislate is not limited to the Commerce Clause. *Missouri* v. *Holland*, 252 U. S. 416. There is also a legitimate basis for extensive regulation in the duty of the United States to provide for and protect means of communication for the Army, Navy, and other Executive Departments, and this duty is expressly recognized in Section 6 of the Act.

The claim of a property right has been denied in the only decisions thus far rendered under the Act. *Technical Radio Laboratory, Appellant* v. *Federal Radio Commission*, No. 4835, Court of Appeals, D.

C., decided November 4, 1929 (reprinted in U. S. Daily November 7, 1929).

The power of Congress with respect to the operation of radio stations is necessarily as great as its power over privately owned structures in or over navigable waters. Interstate navigable waters furnish a strong analogy to the medium known as the ether. See *United States* v. *Chandler-Dunbar Water Power Company,* 229 U. S. 53; *Louisville Bridge Company* v. *United States,* 242 U. S. 409. Special considerations have been recognized as present in the *overflowing* of real estate and such cases as *Pumpelly* v. *Green Bay Company,* 13 Wall. 166, are not in point. There is no analogy between the instant case and *Pennsylvania Coal Company* v. *Mahon et al.,* 260 U. S. 393; for the fundamental question in the present case is whether any property right whatsoever can be acquired in the *use* of transmitting apparatus or in the *use* of the ether.

When the United States exerts any of the powers conferred upon it by the Constitution, the Fifth Amendment imposes no greater limitation upon the national power than does the Fourteenth Amendment upon State power. Accepting respondent's claim the Commission's action is tantamount to closing down WGY, equally serious limitations of the use of property have been upheld under the exercise of the police power by States. *Mugler* v. *Kansas,* 123 U. S. 623. In radio com-

munication the end to be achieved is the protection and preservation of a newly available means of communication for use in the public interest. Radio communication is severely limited by physical laws, and it is this consideration which gives Congress correspondingly extensive power over it in protecting it as a medium of interstate commerce.

Neither the use of the ether nor the use of any property in radio communication can, by its very nature, be the basis for a property right. *Geer* v. *Connecticut,* 161 U. S. 519.

The Commission has not taken property from one individual to give it to another; it has merely slightly curtailed the excessive broadcasting service received by the public in one part of the country in order to provide the public in other parts of the country with an equitable share of service. The principle of *Los Angeles Gas & Electric Co.* v. *City of Los Angeles,* 241 Fed. 912 (aff'd. 251 U. S. 32) has no application to the present case.

IV

The Commission did not err in its decision of October 12, 1928. Section 11 does not require a hearing on an application which on its face discloses it can not be granted without violating some provision of law or valid regulation of the Commission. By reason of General Order 40, the channel of 790 kc. was assigned to the Fifth Zone and was not avail-

able to any station in the First Zone for use after sunset on the Pacific coast. It thus became impossible to grant the application for renewal according to its terms.

Ample opportunity for a hearing was afforded to and rejected by respondent. Respondent was advised of the Commission's procedure September 11, 1928, and steadfastly refused to comply with it. All respondent had to do to have a hearing was to file an application specifying a channel available for full time operation in the First Zone, and respondent was so advised over and over again. Any other procedure would be impracticable.

V

General Order 40 is a valid regulation. It is the corner stone of the allocation of broadcasting stations by which the assignments of over 600 stations are determined. In permitting WGY to broadcast on 790 kc., a cleared channel designated for full-time operation in the Fifth Zone—in thus decreasing the cleared channels assigned to the Fifth Zone to 7—the Court of Appeals has partially invalidated General Order 40, although it has carefully refrained from express condemnation of the order.

General Order 40 was enacted (a) to prevent interference and (b) to carry out the equalization provision of Section 5 of the Amendatory Act of March 28, 1928. Respondent does not attack the

order directly (for it knows good broadcasting service depends upon its existence); it insists the Commission should have provided 50 instead of 40 cleared channels. In urging this contention before the lower court, respondent disclosed a misunderstanding of the engineering advice received and used by the Commission.

The Commission has made the 40 cleared channels accommodate 80 stations, in some cases by division of time, and in other cases by making use of differences in standard time between different parts of the country, and the fact that until two stations are linked by darkness interference areas are not usually created; 554 stations had to be provided for on regional and local channels on which duplication is practical because of widespread geographical separation and the use of smaller amounts of power.

On the 40 regional channels the Commission accommodated 292 stations; on the 6 local channels it provided for 250 stations of small power; on the 4 remaining channels (exclusive of the 6 reserved for Canadian use) the Commission permitted duplication of 12 stations. To increase the number of cleared channels would necessarily increase the number of stations using regional and local channels; and, since these channels are already used by a great many more stations than they can accommodate without causing serious interference, an in-

crease in the number of cleared channels is impracticable.

Many plans were offered and carefully considered before General Order 40 was adopted. After many months of arduous labor the Commission worked out its own scheme of allocation with the assistance of its own engineers.

Respondent emphasizes the need for cleared channels. Such a channel, having a wide service area, must restrict its programs to matters of general interest. There is, however, a widespread insistent demand for programs of regional and local interest. The Commission must and did consult the interests of various types of service in framing the order.

It must be remembered General Order 40 is not the last word in broadcasting assignments. It may be stations will drop out or cease to give satisfactory service to an extent permitting or requiring a different arrangement of channels. It may be the science will make sufficient progress so that stations can operate simultaneously on the same channel to a greater extent than at present. If and when such a time arises, then a new set of regulations will be adopted by the Commission.

The Commission was instructed by Congress to make a new allocation for the benefit of the listening public. General Order 40 is the accomplishment of the task for which the Commission was primarily created.

ARGUMENT[1]

I

THE COURT OF APPEALS HAS ERRONEOUSLY CONSTRUED SECTION 16

1. *The time for the filing of the appeals.*

Section 16 requires that an appeal be taken—

> by filing with said court, within twenty days after the decision complained of is effective, notice in writing of said appeal and of the reasons therefor.

None of these appeals was taken within 20 days of the date on which the Commission's decision was made and entered, October 12, 1928. (R. 130–133.) With respect to the limitation of time for appealing, the Commission submits its decision should be viewed as the decision of any other administrative or quasi-judicial tribunal or the judgment of a court. The rule is, the limitation begins to run when the decision or judgment is entered; it is then *effective.*

Section 14 (Brief, p. 127) relating to orders of revocation provides:

> * * * That no such order of revocation shall take effect until thirty days notice in writing thereof * * * has been given to the parties * * *.

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[1] For a masterful and comprehensive statement of the scientific and legal problems of radio regulation, see Report of the Standing Committee on Radio Law, American Bar Association, 52nd Annual Meeting, Memphis, Tennessee, October 23–25, 1929.

There is no such provision with regard to the four kinds of application refusals of which are subject to appeal. Refusal of an application for renewal of license is the same in juristic nature as refusal of an application for license or refusal of an application for construction permit. The Commission could specify an effective date later than the actual date of its decision, but otherwise the decision is final and conclusive for all practical purposes when it is made.

This construction is supported by the third to the last paragraph of Section 5 (Brief, p. 120), covering appeals from decisions of the Secretary of Commerce to the Commission after December 31, 1929. After December 31, 1929, the Secretary of Commerce will have original power to make decisions on applications, but will not have such power on revocation of license. (Section 5, Brief, p. 118.)

By implication the Court of Appeals found November 11, 1928, the beginning of the period of the new license, as the effective date.

2. *The Commission's decision was not appealable.*

The Commission's decision of October 12, 1928 (R. 130–133) was construed by the Court of Appeals as a refusal of the renewal application (R. 390). The Commission believes its decision of October 12, 1928, was not an appealable decision, since it constituted a granting and not a refusal of the renewal application. Other sections of the Act

show it was the intention of Congress that the licensing authority be unrestricted at the end of a license period in changing, without a hearing, the frequency, power, or hours of operation of any station, subject only to the test of public interest, convenience, or necessity. See opening sentence of Section 1, Section 4, the last paragraph of Section 5, the second paragraph of Section 11, including condition (A), and the last paragraph of Section 39.

The Radio Act of 1927, as it stood before amendment, provided in Section 9 for maximum periods for broadcasting licenses not to exceed 3 years. This was reduced to 3 months by Section 3 of the Acts of March 28, 1928, and March 4, 1929. (Brief, pp. 143, 145.) Nevertheless, the principle remained the same. Congress sought to protect a station against changes *during the period of a license* by Section 4 (f). The chief purpose of the Act and the establishment of the Commission was to bring about a complete reallocation of broadcasting stations so as to bring some measure of order and good reception out of chaos; this meant the complete elimination of some stations and the curtailment of the privileges of a large number of others. It could hardly have been intended that a hearing was to be necessary as to each such station under Section 11 or that any change was to be the basis for an appeal.

3. *The appeals were moot at the time of the court's decision.*

If the Commission had granted the renewal application of General Electric Company to the fullest extent and for the maximum period authorized by law, the Commission would have issued such a license covering a period of three months from November 11, 1928, to February 11, 1929. Section 11 requires the Commission to examine each and every application for renewal of license and determine whether public interest, convenience, or necessity would be served by the granting thereof. Since the maximum period of broadcasting licenses is 3 months, the Commission must perform this duty every 3 months. The Court of Appeals has erroneously construed Section 16 as giving it power to make an original determination of what will serve public interest, convenience, or necessity in a case where the Commission has made no such determination in the first instance, and, in addition, a 3 months' period has elapsed so that it is again the Commission's duty to make a further determination on a further renewal application. The question as to what respondent's station was entitled to on November 11, 1928, became moot February 11, 1929, and the Court of Appeals on February 25, and March 9, 1929, had no power to determine either that question or what the respondent was "now" entitled to. (R. 392, 393, 394.) *Se-*

curity Mutual Life Insurance Company v. *Prewitt,* 200 U. S. 446; *Mills* v. *Green,* 159 U. S. 651; *American Book Company* v. *The State of Kansas ex rel. Nichols,* 193 U. S. 49; *Jones* v. *Montague,* 194 U. S. 147; *Cheong Ah Moy* v. *United States,* 113 U. S. 216; *Tennessee* v. *Condon,* 189 U. S. 64.

4. *The submission of additional evidence.*

Section 16 provides that—

> * * * Within twenty days after the filing of said appeal the licensing authority shall file with the court the originals or certified copies of all papers and evidence presented to it * * *.

The Section also provides for the adducing of additional evidence within a specified time and also that it be done by leave of court on a—

> * * * verified petition stating the nature and character of said additional evidence * * *.

As has already been pointed out, General Electric Company injected a mass of "additional evidence" into the record by attaching it to its notice of appeal. The Court of Appeals in its opinion sets forth supposed facts, evidently drawn in part from matters thus introduced into the record. (R. 391.)

5. *The appeal by the People of the State of New York.*

Under Section 16 the persons who may appeal are limited to the following:

> Any applicant for a construction permit, for a station license, or for the renewal or modification of an existing station license whose application is refused by the licensing authority * * * and any licensee whose license is revoked by the commission * * *.

Manifestly, the People of the State of New York are not entitled to appeal from a decision by the Commission refusing an application for renewal on the part of General Electric Company.

6. *The assessment of costs against the Commission.*

Section 16 does not confer authority on the Court of Appeals to assess costs against the Commission. In performing its statutory duties, the Commission acts as a quasi-judicial inferior tribunal; it is not a party in the ordinary sense, and costs should not be assessed against it in the absence of express authority. To assess costs which must eventually be furnished by the taxpayers is a case of robbing Peter to pay Paul.

The judgment of the Court of Appeals assessed costs in favor of the People of the State of New York, although said respondent manifestly had no standing on appeal. The court also assessed costs in favor of General Electric Company in both of its two appeals, although obviously one of them must have been unnecessary.

II[1]

THE CLAIM OF A PROPERTY RIGHT CAN NOT BE SUSTAINED WITHOUT HOLDING THE RADIO ACT OF 1927 UNCONSTITUTIONAL

The first section of the Radio Act of 1927, which forbids radio communication except under a license, states the Act is intended—

> * * * to maintain the control of the United States over all the channels of interstate and foreign radio transmission; and to provide for the use of such channels, but not the ownership thereof, by individuals, firms, or corporations, for limited periods of time, under licenses granted by Federal authority, and *no such license shall be construed to create any right, beyond the terms, conditions, and periods of* the license. * * * (Italics ours.) (Brief, p. 113.)

The second paragraph of Section 11, in prescribing conditions which must be inserted in every license, specified the following as among such conditions:

> The station license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies or wave length designated in the license *beyond the term thereof* nor in any other manner than authorized therein. (Italics ours.) (Brief, p. 125.)

[1] The constitutional questions are discussed only because they were presented and vigorously argued by General Electric Company in the court below.

Section 12 forbids the assignment or transfer of any license except with the written consent of the Commission.

The last paragraph of Section 5 provides for a waiver to be signed by every applicant as follows:

> No station license shall be granted by the commission or the Secretary of Commerce until the applicant therefor shall have signed a waiver of any claim to the use of any particular frequency or wave length or of the ether as against the regulatory power of the United States *because of the previous use of the same,* whether by license or otherwise. (Italics ours.) (Brief, p. 120.)

The same careful protection of the Government against the creation of any property right is revealed in the last paragraph of Section 39, in various provisions of Section 4, such as subparagraphs (c) and (f), and elsewhere in the Act. Under Sections 9 and 11 the Commission may not grant a renewal of license unless it shall find that public interest, convenience, or necessity will be served thereby. Under Section 9 the original maximum period for a broadcasting license was 3 years; this was amended March 28, 1928, so as to make the maximum period 3 months. (Brief, p. 143.)

Pursuant to the requirements of the Act, General Electric Company has, in every application filed by it with the Commission, signed an express waiver in the language prescribed by Section 5. Such a waiver was contained in and subscribed to by respondent in the very application which gave rise

to this litigation, without protest or question. (R. 95.) Every license issued to the Company by the Commission has contained the express condition prescribed by Section 11, including the license of November 1, 1927, renewal of which was sought by the application in question. (R. 88.)

Even prior to the enactment of the Act, the Company had waived any claim to a property right pursuant to the requirements of a Joint Resolution of Congress, approved December 8, 1926. (44 Stat. 917.) This resolution required that every application filed with the Department of Commerce should be accompanied by a waiver of—

> * * * any right or of any claim of right, as against the United States to any wave length or to the use of the ether in radio transmission because of previous license to use the same or because of the use thereof.

General Electric Company filed such a waiver January 10, 1927, in connection with an application to the Department of Commerce for renewal of its license and attempted to reserve its right by an accompanying protest. This waiver was rejected by the Department of Commerce, and a new waiver was filed January 17, 1927, without such a protest. (R. 69–70.)

Nothing need be added to the foregoing excerpts from the law to demonstrate the Company's claims of a property right can not possibly be sustained unless the entire Act is held unconstitutional by

this Court. The Company is manifestly attempting to gain recognition of a right "beyond the terms, conditions, and periods of the license." It is basing its claim on "previous use * * * whether by license or otherwise." If further argument be necessary to establish the intention of Congress to negative any claim to a property right in the Act, reference is made to the extended debates which took place on the Bills which led to the present law from 1923 to 1927, and particularly during the winter of 1926.

In explaining to the Senate the Bill which, by conference agreement with the House, was ultimately amalgamated with a House Bill to become the present law, Senator Dill, its author in the Senate, said, in part:

> There is another feature of the law that makes the need of legislation even more imperative than the conditions I have just described. I refer to the fact that the present law (i.e., the Radio Act of 1912) places no limit on the length of time for which the Secretary of Commerce may grant licenses. He may grant a license for 1 year, for 10 years, for 50 years, or for 100 years. The fact is that up to this time Secretary Hoover has limited all broadcasting licenses to a period of 90 days, but he is under no requirement to do this.
>
> The result of his refusal to issue licenses for broadcasting for more than 90 days is that *no individual, firm, or corporation in*

> *the United States has any vested right or any long-time lease on any wave length for radio purposes.* This leaves Congress free to legislate in such a manner as to protect the interest of the people as a whole and to retain permanently the control of wave lengths for radio purposes.
>
> Mr. President, *the very first paragraph of the bill is intended to cover the situation.* It is very similar to the House provision. I want to read the opening section of the bill because it states so clearly what I think the House intended to state, but in a little different language. (Cong. Rec., 69th Cong., 1st Sess., Part 2, p. 12351.) (Italics ours.)

Senator Dill then quoted from Section 1 of the Bill which contains language identical with the present Act in so far as the claim of vested right is concerned. He added:

> If that provision is enacted into law it absolutely settles the question of the ownership and control of the various wave-length channels. * * *

In the House Mr. Lehlbach, a member of the Committee on Merchant Marine and Fisheries which reported the bill out, said in answer to a question asked him:

> The gentleman speaks as though the present holder of the license had a vested interest in it, and that is what we want to prevent. (Cong. Rec., 69th Cong., 1st Sess., Part 5, p. 5500.)

III

THERE IS NO PROPERTY RIGHT, AS AGAINST THE REGULATORY POWER OF THE UNITED STATES, TO ENGAGE IN BROADCASTING

In the court below General Electric Company insisted it had a property right to operate WGY as a full-time station of which it could not be deprived without compensation. It also asserted prohibition of the use of WGY was a taking of the property of the Company in violation of the Fifth Amendment.

While respondent was not consistent in describing its supposed property, it was possible to discern in its claims a confusion of two somewhat different theories. Under one emphasis was laid on the tangible physical property constituting WGY, namely, its transmitting apparatus and accessory equipment; and complaint was made the Commission had prohibited the use thereof to such an extent as to constitute a taking. Under this theory respondent apparently claimed anything less than full-time operation on a cleared channel was an unlawful restriction on the use of its property, but did not insist any specific channel was an essential element of its claim. It would like the channel of 790 kc., which it has used for a long time, but would be satisfied with any channel "substantially equivalent." Within a wide range its transmitting apparatus can be adjusted to use one channel as well as another, and its claim was, therefore, with certain limita-

tions not important to this discussion, for full time on any cleared channel.

Under the Company's second theory emphasis was not on the tangible physical property but on long user of, and priority with respect to, certain privileges, i. e., full-time operation on a cleared channel, presumably with 50 kw. power and on the specific channel of 790 kc., although these last two elements were not pressed. Under this theory the *privileges* constitute the supposed property right, since the tangible physical property of WGY is not the same as that with which respondent commenced broadcasting in 1922 and, on the contrary, is of comparatively recent construction. WGY is not the 10th oldest station in the United States from the point of view of its tangible property or, in fact, from any point of view other than the continued use of certain call letters designated by the Secretary of Commerce.

In the Commission's "Statement" (Brief, p. 9) and in the record it appears—

> 1. That at no time from May, 1923, to November 1, 1927, did respondent enjoy full-time operation. (R. 50–51, 192.)
>
> 2. That at no time, even including the last license period expiring November 11, 1928, has respondent ever *used* full time. (R. 91, 97, 207–208, 241–248, 273–281.)
>
> 3. That respondent did not enjoy the use of a cleared channel for several months prior to the enactment of the Radio Act of 1927, nor for several months thereafter. (R. 192.)

4. That respondent is not using the same transmiting apparatus it used at the outset or for a considerable period thereafter. (R. 73, 90–91, 94.)

5. That respondent has had continuous authorization to use 50 kw. only since September 15, 1927, and that for most of the period prior to that it was authorized to use amounts varying from 1 kw. to 5 kw. (R. 94–95.)

6. That during the period it was using these several amounts of power it was serving a very much more restricted area than it now claims the right to serve. (Appendix D, p. 155; R. 209.)

7. That respondent has repeatedly waived any claim to a property right and, in consideration of such waiver, has received and enjoyed valuable privileges from the United States. (e. g., R. 69–70, 95.)

Thus the basis in fact for the property right urged by General Electric Company, whichever theory be adopted, is very unsubstantial. Equally unsubstantial, as is pointed out in the Commission's "Statement" (Brief, p. 15), is the basis for the claim the small curtailment of time resulting from the Commission's action amounts to such a restriction on the use of respondent's property as to be be tantamount to a taking thereof.

In urging its claims before the Court of Appeals, respondent was vague as to which of the clauses of the Fifth Amendment it relied upon; i. e., as to a deprivation of property without due process of

law, or as to a taking of property for public use without just compensation. The Court of Appeals dismissed respondent's claims under the Fifth Amendment in the following terms:

> In respect to appellant's first contention we may say that under the commerce clause of the Constitution Congress has power to provide for the reasonable regulation of the use and operation of radio stations in this country and to establish agencies, such as the Federal Radio Commission, to give effect to that authority. * * * (R. 390.)

Since General Electric Company may again press its claims under the Fifth Amendment in this Court, the Commission desires to show those claims fail if there is no private property involved, and it proposes to show there is not.

If the Commission is right in its contention, it disposes of any question as to the validity of the act and of any question as to the correctness of its decision from the point of view of the Fifth Amendment.

1. *Radio communication is interstate commerce.*

That broadcasting is interstate commerce is not open to question. It has been directly decided in *White* v. *Federal Radio Commission et al.*, 29 F. (2d) 113 (D. C., N. D. Ill., 1928); *United States* v. *American Bond & Mortgage Co. et al.*, 31 F. (2d) 448 (D. C., N. D. Ill., 1929); *Whitehurst* v. *Grimes et al.*, 21 F. (2d) 787 (D. C., E. D. Ky., 1927); and *Technical Radio Laboratory, Appellant*

v. *Federal Radio Commission,* No. 4835, Court of Appeals, D. C., decided November 4, 1929 (reprinted in U. S. Daily, Nov. 7, 1929).

In recent decisions under the Copyright Act it has been held broadcasting of a song is a performance publicly for profit. *M. Witmark & Sons* v. *L. Bamberger & Co.,* 291 Fed. 776 (D. C., D. N. J., 1923); *Jerome H. Remick & Co.* v. *American Automobile Accessories Co.,* 5 F. (2d) 411 (C. C. A. 6th, 1925); *Jerome H. Remick & Co.* v. *General Electric Co.,* 16 F. (2d) 829 (D. C., S. D. N. Y., 1926).

The passage of light rays across the Canadian border into the State of New York was held to be a bringing in, or causing to be brought in, the United States of a pictorial representation of a prize fight in violation of an Act of Congress in *Pantomimic Corp.* v. *Malone et al.,* 238 Fed. 135 (C. C. A. 2nd, 1916).

The principles announced in the many cases involving communication by wire make it clear they extend to communication by wireless: *Pensacola Telegraph Company* v. *Western Union Telegraph Company,* 96 U. S. 1; *Western Union Telegraph Company* v. *Pendleton,* 122 U. S. 347; *Postal Telegraph-Cable Company* v. *Warren-Godwin Lumber Company,* 251 U. S. 27; *Western Union Telegraph Company* v. *Boegli,* 251 U. S. 315; *Telegraph Company* v. *State of Texas,* 105 U. S. 460; *Ratterman* v. *Western Union Telegraph Company,* 127 U. S. 411; *Leloup* v. *Port of Mobile,* 127 U. S. 640; *Western*

Union Telegraph Company et al. v. *Foster and MacLeod et al.*, 247 U. S. 105.

Radio communication is one of those subjects of interstate commerce which, since it requires a general system or uniformity of regulation, is national in character. As to such a subject the power of Congress is exclusive. *The Minnesota Rate Cases*, 230 U. S. 352. As a matter of fact, it is international in character, and for many years its regulation has been subject in large measure to the provisions of treaties to which United States has been and is a party. The first of these was the Berlin Convention of 1906, ratified by the Senate in 1912; the second, the London Convention of 1912; and the third, the Washington Convention of 1927. The power of Congress to make treaties effective is not limited to the subjects with respect to which it is empowered to legislate. *In re Ross*, 140 U. S. 453; *Missouri* v. *Holland*, 253 U. S. 416.

The United States has a legitimate basis for the most extensive control of radio communication in its duty to provide for and protect means of communication for the Army, the Navy, and other Executive Departments. The Act recognizes the Government's interest is paramount. Under Section 6 (Brief, p. 121) the President can assign any or all frequencies to Government stations, and private stations must cease operating on the frequencies thus assigned. The channel of 790 kc., like any other channel in the broadcast band, is constantly subject to this contingency. The Presi-

dent may, by mere proclamation in time of national emergency, close up or suspend any and all stations without compensation, except where the Government takes over the use and operation of a station. The same paramount rights were recognized in the Radio Act of 1912. In nearly every country in the world, other than the United States, radio communication, including broadcasting, is regarded as a Government function and radio stations are owned and operated either directly by the various Governments or by corporations which are in effect Government agencies. In the United States permission has been given for temporary use of the ether by private interests but always subject to the right of the Government to put an end to the privileges thus conferred.

2. *The claim of a property right has been denied in the only decisions thus far rendered under the Act.*

The Claim was ignored by the Court of Appeals in the principal case. *General Electric Co.* v. *Federal Radio Commission,* 31 F. (2d) 630 (C. A., D. C., 1929). (R. 386.) In a recent series of cases, however, the Court of Appeals denied the claim and sustained the Commission: *Technical Radio Laboratory, Appellant* v. *Federal Radio Commission; City of New York, Appellant* v. *Federal Radio Commission; C. L. Carrell, Appellant* v. *Federal Radio Commission;* Nos. 4835, 4898, 4899, Court of Appeals, D. C., decided November 4, 1929 (reprinted in U. S. Daily November 6 and 7, 1929).

The claim of a property right was denied in *White* v. *Federal Radio Commission et al.*, 29 F. (2d) 113 (D. C., N. D. Ill., 1928). It was denied by the same court in *United States* v. *American Bond & Mortgage Co. et al.*, 31 F. (2d) 448. In that case renewal of defendant's license was refused after a substantial showing, yet the court granted a motion for preliminary injunction to restrain threatened operation of the apparatus on the ground it would cause obstruction of interstate commerce. In a scholarly and exhaustive opinion the court said (pp. 456–457):

> * * * * In the very nature of things there can be no right to the use of any particular frequency or wave length, or of the ether as against the legitimate exercise of the regulatory power of the United States.

In the court below General Electric Company placed some reliance on *The Tribune Company* v. *Oak Leaves Broadcasting Station, Inc. et al.*, Circuit Court of Cook County, Ill. Gen No. B–136864 (reprinted in Cong. Rec., Vol. 68, Part I, pp. 216–219). The opinion was rendered November 17, 1926, on a motion by defendants to set aside a preliminary injunction. Before the case was determined on the merits the Radio Act of 1927 became law. It happens, however, the court carefully negatived any intention to recognize a property right as against the United States. Referring to the Act of 1912, the court said:

Manifestly Congress has not undertaken by this enactment to assume the regulation of broadcasting stations under its constitutional powers providing for its right to regulate foreign commerce, except in so far as it has provided in the enactment. Undoubtedly Congress will undertake to control the use of broadcasting stations under its constitutional power at some time in the future and, in view of the fact that it has the power to regulate communication between States, it would probably also have the right to regulate broadcasting stations, even though not engaged in broadcasting from one State to another, on the ground that the general subject was one which came within the commerce clause of the Constitution. In order to make it effective it necessarily follows that it would have the right to control others engaged in the same line of operation, namely, in broadcasting, if such broadcasting should result in an interference with those stations actually engaged in broadcasting from one State to another.

* * * * *

This court is of the opinion, from its interpretation of the act of August 13, 1912, that Congress did not intend to undertake to assume the right to regulate broadcasting under its powers given it to regulate commerce and that, until such time as it does, litigants may enforce such rights as they may have by reason of operating broadcasting stations in the State courts having jurisdiction of the person of the parties. * * *

It is not necessary to discuss the interim report of the Committee on Radio Legislation of the American Bar Association of December 8, 1926, relied on by General Electric Company in the court below, except to point out a subsequent regular report by the Air Law Committee of the Association virtually abandoned the extreme position taken in the interim report. (Reports of the American Bar Association, Vol. 5, p. 322.)

3. *The power of Congress with respect to the operation of radio stations is necessarily as great as its power over privately owned structures in or over navigable waters.*

Interstate navigable waters furnish a strong analogy to the hypothetical medium known as the ether. The United States must have as great control over the use of the latter as it has over the former. There is need for even greater control since, by virtue of the laws of nature, the number who can engage in radio communication must be limited, for otherwise the entire public is deprived of its benefits.

Property rights have many times been asserted before this Court in structures erected and owned by private persons in or over navigable waters, and have uniformly been rejected.

In *United States* v. *Chandler-Dunbar Water Power Company,* 229 U. S. 53, this Court reviewed a judgment in a condemnation proceeding instituted under an Act of Congress of March 3, 1909

(35 Stat. 820), against the Chandler-Dunbar Company, which was engaged in using and selling water power on the St. Marys river. The Company had title both to the land along the shore of the river and river bed. Under permits from the Secretary of War, revocable at will, it had placed in the rapids, in connection with its upland facilities, the necessary dams, dykes, and forebays for the purpose of controlling the current and used its power for commercial purposes. By Act of March 3, 1909, Congress determined the entire St. Mary's river between the American bank and the international boundary line was "necessary for the purpose of navigation of said waters and the waters connected therewith" and directed condemnation proceedings. This Court reversed the judgment of the lower court in so far as it provided for compensation for loss and damage to the company because of the revocation by that Act of the permits issued by the Secretary of War for placing the structures in the river and using the power for commercial purposes.

The revocable permits of the Secretary of War are not different in nature from the short term licenses respondent has had from the Secretary of Commerce and the Federal Radio Commission. Section 2 of the Radio Act of 1912 (37 Stat. 303) provides in part:

> * * * Every such license shall be subject to the regulations contained herein and such regulations as may be established from

time to time by authority of this Act or subsequent acts and treaties of the United States. * * *

The conditions in licenses from the Commission are explicit in their reservation of control.

The cases dealing with the removal or alteration of bridges are equally in point and represent a gradual progression from a half-hearted to a complete recognition of the plenary power of Congress. The question first arose in *Bridge Company* v. *United States,* 105 U. S. 470. This case was followed by *Union Bridge Company* v. *United States,* 204 U. S. 364. A criminal proceeding had been brought against a bridge company for failure to comply with the order of the Secretary of War to make certain changes or alterations after he had found the bridge to be an unreasonable obstruction of the free navigation of the Allegheny river. The bridge company had built the bridge under authority from the Pennsylvania legislature by an Act approved in 1873. It was contended the Rivers and Harbors Act of 1899 was unconstitutional, in that it made no provision, and the United States had not offered, to compensate the bridge company for the sum necessary to be expended in order to make the alterations required by the Secretary of War. This contention was overruled.

The case was followed by several of a similar nature which need not be reviewed: *Monongahela Bridge Company* v. *United States,* 216 U. S. 177; *Hannibal Bridge Company* v. *United States,* 221

U. S. 194; *Philadelphia Company* v. *Stimson,* 223 U. S. 605. Finally in *Louisville Bridge Company* v. *United States,* 242 U. S. 409, this Court upheld the action of the Secretary of War in requiring alterations of a bridge under the Rivers and Harbors Act of 1899, although the bridge had been erected pursuant to authority in the Acts of 1862 and 1865 given without reservation.

The subject was reviewed in *Sanitary District of Chicago* v. *United States,* 266 U. S. 405. See also *Greenleaf Johnson Lumber Company* v. *Garrison,* 237 U. S. 251.

In *Louisville and Nashville Railroad Company* v. *Mottely,* 219 U. S. 467, the Supreme Court upheld the provision in the Interstate Commerce Act forbidding the issuance of passes to any but certain classes of persons. Mottely had, many years prior to the decision, suffered personal injuries through the negligence of the railroad, and had settled his claim against the railroad by accepting its agreement to issue him an annual pass for the rest of his life. The provision in the Interstate Commerce Act took his property away from him without compensation. He was held to be without remedy because he at all times knew, and was subject to the fact, that Congress might, in the exercise of its plenary power over interstate commerce, pass a law which would forbid the issuance of passes.

The several cases cited by respondent in the lower court are readily distinguishable. Three of them—

Pumpelly v. *Green Bay Company,* 13 Wall. 166, *United States* v. *Lynah,* 188 U. S. 445, and *United States* v. *Cress,* 243 U. S. 316—have to do with the overflowing of real estate as the result of the placing of dams in rivers, the real estate having previously been unaffected by the flow of such rivers. As opposed to these cases may be cited such cases as *Gibson* v. *United States,* 166 U. S. 269, *Scranton* v. *Wheeler,* 179 U. S. 141, *Bedford* v. *United States,* 192 U. S. 217, *Fox River Paper Company et al.* v. *Railroad Commission of Wisconsin,* 274 U. S. 651, and *Jackson* v. *United States,* 230 U. S. 1, also involving serious damage to real estate, such as the interruption of access from riparian land to a navigable channel, where the right to compensation was denied. Special considerations have been recognized as present in the *overflowing* of real estate, owing to the time-honored extensive property right which has been recognized in lands (see particularly *Pumpelly* v. *Green Bay Company, supra*) and the complete deprivation of possession which an overflowing results in. In the instant case, however, there has been only a partial curtailment of the *use* of the transmitting apparatus, and the sanctity of real property is not involved.

There is no analogy between the instant case and the facts in *Pennsylvania Coal Company* v. *Mahon et al.,* 260 U. S. 393, and *Delaware, Lackawanna and Western Railroad Company* v. *Town of Morristown et al.,* 276 U. S. 182, cited by respondent in the court

below. The fundamental question in the present case is whether any property right whatsoever can be acquired in the *use* of a radio transmitting apparatus in interstate commerce, or in the *use* of the ether. It is the Commission's contention that no such right can be acquired or, in fact, any right further than that provided by license granted in accordance with the Act.

4. *When the United States exerts any of the powers conferred upon it by the Constitution, the Fifth Amendment imposes no greater limitation upon the national power than does the Fourteenth Amendment upon State power.*

That the United States in exercising a power conferred upon it by the Constitution may go as far as a State in imposing restrictions upon the use or disposition of property is clear from decisions of this Court in *Hamilton* v. *Kentucky Distilleries & Warehouse Company,* 251 U. S. 146, *Jacob Ruppert* v. *Caffey et al.,* 251 U. S. 264, and *Lambert* v. *Yellowley et al.,* 272 U. S. 581. Counsel are, therefore, justified in examining those cases in which this Court has sustained exercises of the police power by States to the extent of forbidding the use of property, or of seriously curtailing the use.

The police power is no longer regarded as limited to the health, peace, and morals of the community; it extends to acts which develop resources, and contribute to wealth, public convenience, or general prosperity. *Jacobson* v. *Massachusetts,* 197 U. S. 11; *Chicago, Burlington & Quincy Rail-*

way Company v. *People of the State of Illinois*, 200 U. S. 561. And see *Miller et al.* v. *Board of Public Works of the City of Los Angeles et al.*, 234 Pac. 381; *Marrs et al.* v. *City of Oxford et al.*, 24 F. (2d) 541 (D. C., D. Kans., 1928).

For the purpose of this discussion the Commission accepts as true respondent's assertion the Commission's action is tantamount to closing down WGY. Many kinds of business have been closed down completely; many kinds of property have been rendered useless, without compensation, in the exercise of State police power. It is true certain of the statutes which have been upheld have been for the protection of health and morals; it is equally true many others have not. The question is one of the public importance of the end to be achieved; if important enough, the claims of private individuals give way without compensation.

In radio regulation the end to be achieved is the protection and preservation of a newly available medium of communication for use in the public interest. It is useless unless the number who engage in it is rigidly limited. If a private *right* to engage in it is recognized, independently of the test of public interest, then the many private uses will destroy its public use. Radio communication is severely limited by physical laws, and it is this consideration which gives Congress correspondingly extensive power over it in protecting it as a medium of interstate commerce. Congress must have power to prohibit altogether, if it chooses, the use of any

particular transmitting apparatus. The channels must be open for such uses as it, or the agency which it creates, may from time to time find best calculated to serve the public. Individual rights cannot be permitted to be more than temporary and confined within the four corners of licenses.

Illustrations of extreme exercises of police power by State legislatures to the point of rendering property useless, which have been upheld, are *Mugler* v. *Kansas,* 123 U. S. 623, the manufacture and sale of intoxicating liquors within the State; *Powell* v. *Pennsylvania,* 127 U. S. 678, sale of oleomargarine; *Pierce Oil Corporation* v. *City of Hope,* 248 U. S. 498, storage of fuel within certain localities; *Reinman* v. *City of Little Rock,* 237 U. S. 171, livery stables in designated areas; *Barbier* v. *Connolly,* 113 U. S. 27, buildings for laundry purposes, etc. See also *The Hebe Company et al.* v. *Shaw,* 248 U. S. 297; *St. Louis Poster Advertising Company* v. *City of St. Louis et al.,* 249 U. S. 269; *L'Hote* v. *New Orleans,* 177 U. S. 587; *Thomas Cusack Company* v. *City of Chicago et al.,* 242 U. S. 526; *Hadacheck* v. *Sebastian,* 239 U. S. 394; *Union Oil Co.* v. *City of Portland,* 198 Fed. 441 (D. C., D. Ore., 1912); *Corvallis Creamery Co.* v. *Van Winkle et al.,* 274 Fed. 454 (D. C., D. Ore., 1921); *Scott et al.* v. *Frazier et al.,* 258 Fed. 669 (D. C., D. N. D., 1919).

Comprehensive zoning ordinances are not dissimilar in their purposes and requirements to the equalization amendment applied to broadcasting

stations. They have consistently been upheld. *Village of Euclid et al.* v. *Ambler Realty Company,* 272 U. S. 365; *Zahn et al.* v. *Board of Public Works et al.,* 274 U. S. 325; *American Wood Products Company et al.* v. *City of Minneapolis,* 21 F. (2d) 440 (D. C., D. Minn., 1927). See also *Gorieb* v. *Fox et al.,* 274 U. S. 603; *Welch* v. *Swasey et al.,* 214 U. S. 91; *Miller et al.* v. *Board of Public Works of City of Los Angeles et al.,* 234 Pac. 381.

A gas company has no such property right in the location of its pipes and mains laid under an exclusive franchise as to make the imposition on it of the cost of changes in the location of such pipes and mains, necessitated by the construction of the municipal drainage system, a taking of property without compensation. *New Orleans Gas Light Company* v. *Drainage Commission of New Orleans,* 197 U. S. 453. See also *Denver & Rio Grande Railroad Company* v. *City of Denver et al.,* 250 U. S. 241.

In *Miller et al* v. *Schoene,* 276 U. S. 272, the Virginia Cedar Rust Act providing for the destruction of all cedar trees within two miles of any apple orchards in order to prevent communication of the disease to apple trees, was held constitutional.

See also *Walls et al.* v. *Midland Carbon Company et al.,* 254 U. S. 300; *Laurel Hill Cemetery* v. *City and County of San Francisco,* 216 U. S. 358; *Douglas* v. *Kentucky,* 168 U. S. 488; *Eldridge* v. *Trezevant,* 160 U. S. 452; *Ohio Oil Company* v. *Indiana,* 177 U. S. 190; *Geer* v. *Connecticut,* 161 U. S. 519.

Illustration of the extent to which Congress has already gone in its exercises of the interstate commerce power are *Champion* v. *Ames,* 188 U. S. 321, prohibition of lottery tickets in interstate commerce; *Hoke and Economides* v. *United States,* 227 U. S. 308, and *Caminetti* v. *United States,* 242 U. S. 470, Mann Act; *Hipolite Egg Company* v. *United States,* 220 U. S. 45, Pure Food Act; *Reid* v. *Colorado,* 187 U. S. 137, diseased stock.

A person does not secure a vested right to carry on a particular business by engaging in it prior to any legislation on the subject. *New Orleans Gas Company* v. *Louisiana Light Company,* 115 U. S. 650.

5. *Neither the use of the ether nor the use of any property in radio communication can, by its very nature, be the basis of a property right.*

The nature and quantum of the rights of those engaged in radio communication can not be adequately considered without an examination of the nature of property rights in general. It is elemental that there are no absolute rights in civilized society.

> Property in land must be considered, for many purposes, not as an absolute, unrestricted dominion, but as an aggregation of qualified privileges, the limits of which are prescribed by the equality of rights, and the correlation of rights and obligations necessary for the highest enjoyment of land by the entire community of proprietors. * * *

Doe, J., in *Thompson* v. *The Androscoggin River Improvement Co.*, 54 N. H. 545, 551.

Property interests have been defined as no more than legal relations of lesser or greater value, any one of which may accurately be brought within the popular term "private property." The word "property" has no definite or stable connotation. It is not defined in the Constitution. Sometimes it is employed to indicate the physical object to which various legal rights, privileges, etc., relate; then again, with far greater discrimination and accuracy, the word is used to denote the legal interests or aggregate of legal relations appertaining to such physical object. To say that A owns a piece of land is really to assert that he is vested by law with a complex aggregate of legal rights, powers, privileges, and immunities, all relating to the land in question.

When society recognizes in an individual rights, powers, privileges, and immunities, it usually creates property in a legal sense, and after society has recognized these rights, powers, privileges, and immunities for a period of time, it becomes quite safe to assert that an individual has "property." There may be a prediction that another individual will be permitted the same rights, powers, privileges, and immunities as have been granted in the past to others in the same or similar situation. It is society, therefore, operating through its courts of law, that creates "property" and not the individual. Prop-

erty rights become uncertain as some additional element, heretofore absent or latent, becomes of sufficient economic, social, or political importance to produce an opposite result.

It has been said that the individual acquires property interests in three ways—first, by appropriation; second, by creation; and, third, by acquisition under the prevailing social, economic, or legal system by exchange, purchase, gift, or succession. The first and second of these have always been spoken of as giving a "natural" title to property. Possession of what one discovers is so in accord with a fundamental human instinct that discovery and occupation have been recognized in the jurisprudence of all countries.

Roman jurists recognized that certain things were not subject to acquisition in any of the foregoing ways, although they did recognize most things were destined by nature to be controlled by man, since such control expressed their natural purpose. Some things, however, were not destined to be controlled by individuals, since individual control would run counter their natural purpose. Hence they could not be subjects of prior ownership. Therefore, ownership was excluded when the nature of the thing was adapted to general use or adapted to public use for public purposes. In modern law, as the result of the medieval confusion of the power of the sovereign to regulate the use of things as contrasted with the ownership of things, it has been necessary to distinguish between, first, those things

which can not be owned at all; second, those things which may be owned by public corporations but may not be transferred; and, third, those things which may be owned by public corporations in full dominion.

The case of *Geer* v. *Connecticut*, 161 U. S. 519, involves the power of the State to make unlawful the transportation out of the State of animals, *ferœ naturæ*, when the same had been reduced to possession. This case stands for the principle that the source of the police power of a State is in the duty of the State to preserve for its people that which is common to all and the source of a valuable food supply. The case discusses the region of private ownership. Mr. Justice White, in delivering the opinion of the court, quotes from Pothier No. 21 as follows (p. 525):

> "The first of mankind had in common all those things which God had given to the human race. This community was not a positive community of interest like that which exists between several persons who have the ownership of a thing in which each have their particular portion. It was a community which those who have written on this subject have called a negative community, which resulted from the fact that those things which were common to all belonged no more to one than to the others, and hence no one could prevent another from taking of these common things that portion which he judged necessary in order to subserve his

wants. Whilst he was using them others could not disturb him, but when he had ceased to use them, if they were not things which were consumed by the fact of use, the things immediately reentered into the negative community, and another could use them. The human race having multiplied, men partitioned among themselves the earth and the greater part of those things which were on its surface. That which fell to each one among them commenced to belong to him in private ownership, and this process is the origin of the right of property. Some things, however, did not enter into this division and remain therefore to this day in the condition of the ancient and negative community. No. 21."

Referring to those things which remain common or in what he qualified as the negative community, this great writer says:

"These things are those which the jurisconsults called *res communes.* Marcien refers to several kinds—the air, the water which runs in the rivers, the sea, and its shores * * * As regards wild animals, *feræ naturæ,* they have remained in the ancient state of negative community." * * *

Further in the opinion it is stated (p. 526):

The common law of England also based property in game upon the principle of common ownership, and therefore treated it as as subject to governmental authority.

Blackstone, whilst pointing out the distinction between things private and those which are common, rests the right of an in-

dividual to reduce a part of this common property to possession, and thus acquire a qualified ownership in it, on no other or different principle from that upon which the civilians based such rights. 2 Bl. Com. 1 and 12.

Referring especially to the common ownership of game, he says:

"But after all, there are some few things which, notwithstanding the general introduction and continuance of property, must still unavoidably remain in common, being such wherein nothing but an usufructuary property is capable of being had; and therefore they still belong to the first occupant during the time he holds possession of them and no longer. Such (among others) are the elements of light, air, and water, which a man may occupy by means of his windows, his gardens, his mills, and other conveniences; such also are the generality of those animals which are said to be *feræ naturæ*, or of a wild and untamable disposition, which any man may seize upon or keep for his own use or pleasure." 2 Bl. Com. 14. * * *

(P. 529.) Whilst the fundamental principles upon which the common property in game rests have undergone no change, the development of free institutions has led to the recognition of the fact that the power or control lodged in the State, resulting from this common ownership, is to be exercised, like all other powers of government as a trust for the benefit of the people, and not as a

prerogative for the advantage of the government, as distinct from the people, or for the benefit of private individuals as distinguished from the public good. Therefore, for the purpose of exercising this power, the State, as held by this court in *Martin* v. *Waddell*, 16 Pet. 410, represents its people, and the ownership is that of the people in their united sovereignty. The common ownership, and its resulting responsibility in the State, are thus stated in a well-considered opinion of the Supreme Court of California:

"The wild game within a state belongs to the people in their collective sovereign capacity. *It is not the subject of private ownership except in so far as the people may elect to make it so; and they may, if they see fit, absolutely prohibit the taking of it, or traffic and commerce in it, if it is deemed necessary for its protection or preservation of the public good.*" *Ex parte Maier*, *ubi sup.* (Italics ours.)

Further in the opinion (p. 533) is the following extract from *State* v. *Rodman*, 58 Minn. 393, 400:

The preservation of such animals as are adapted to consumption as food or to any other useful purpose, is a matter of public interest; and it is within the police power of the State, as the representative of the people in their united sovereignty, to make such laws as will best preserve such game, and secure its beneficial use in the future to the citizens, and to that end it may adopt any reasonable regulations, not only as to time

and manner in which such game may be taken and killed, but also imposing limitations upon the right of property in such game after it has been reduced to possession. *Such limitations deprive no person of his property, because he who takes or kills game had no previous right of property in it, and when he acquires such right by reducing it to possession he does so subject to such conditions and limitations as the legislature has seen fit to impose.* See also *State* v. *Northern Pac. Exp. Co.*, 58 Minn. 403. (Italics ours.)

6. *The Commission has not taken property from one individual to give it to another; it has merely slightly curtailed the excessive broadcasting service received by the public in one part of the country in order to provide the public in other parts of the country wth an equitable share of service.*

The principle of *Los Angeles Gas & Electric Co.* v. *City of Los Angeles et al.*, 241 Fed. 912 (aff'd., 251 U. S. 32), has no application to the present case.

Pursuant to the equalization amendment the Commission curtailed the broadcasting facilities enjoyed to the point of congestion in the First and Fourth Zones, in order to make possible a fair measure of broadcasting service for the listening public in the Third and Fifth Zones. In other words, the test of "public interest, convenience, or necessity," applied logically to the new situation created by broadcasting stations, led to the reduc-

tion of *duplication* of service in one zone to provide a measure of service in another.

We believe broadcasting stations, as a matter of juristic analysis, will be classified as public utilities, not, however, of the common carrier type (such as telephone and telegraph companies, where the emphasis is on the right of *sending*) but of the public-service corporation type (such as light, heat, and water companies, where the emphasis is on the right to *receive service*). We take the liberty of quoting from the statement recently filed by the Commission in *Great Lakes Broadcasting Company, Appellant* v. *Federal Radio Commission,* No. 4900, Court of Appeals, D. C.:

> To pursue the analogy of telephone and telegraph public utilities is, therefore, to emphasize the right of the *sender* of messages to the detriment of the listening public. The Commission believes that such an analogy is a mistaken one when applied to broadcasting stations; the emphasis should be on the *receiving* of service, and the standard of public interest, convenience, or necessity should be construed accordingly. This point of view does not take broadcasting stations out of the category of public utilities or relieve them of corresponding obligations; it simply assimilates them to a different group of public utilities, i. e., those engaged in purveying commodities to the general public, such, for example, as heat, water, light, and power companies, whose duties are to *consumers,* just as the duties of broadcasting

> stations are to listeners. The commodity may be intangible but so is electric light; the broadcast program has become a vital part of daily life. Just as heat, water, light, and power companies use franchises obtained from city or state to bring their commodities through pipes, conduits, or wires over public highways to the home, so a broadcasting station uses a franchise from the Federal Government to bring its commodity over a channel through the ether to the home.

At another point in the same statement the Commission said:

> One clear instance where priority has had to give way, and in proper cases will continue to have to give way, is where the junior applicant proceeds from a Zone or State, which is not getting the equal or the fair and equitable share of broadcasting service to which it is entitled under the law. This is a logical corollary of established public utility law. Since the total available broadcasting facilities are so limited, it is axiomatic that all parts of the United States should be afforded at least a fair degree of broadcasting service before the claims of any particular community to a greater share of service can justly be recognized. A mandate to carry out this principle was given to the Commission in general language by Section 9 of the Radio Act of 1927, and in specific language by Section 5 of the Amendatory Act of March 28, 1928.

The statement then proceeds to point out the distinction between the manner in which the question of priority was raised in that case (where it was quite properly considered and given weight by the Commission on a hearing resulting from applications filed in accordance with the Commission's regulations) and the manner in which respondent seeks to raise it in the instant case.

An examination of the decisions of the Supreme Court on businesses found to be affected with a public interest demonstrates it is impossible to arrived at a precise definition. It will be observed that as a general rule the following elements are present:

1. That the business be under an obligation to serve the entire public within its service area without discrimination.

2. That the business be such that the prices or rates which may be charged may be fixed by the legislature.

3. That the business be such as to call for and receive public assistance in the way of condemnation or the exercise of the power of eminent domain, or a valuable franchise, such as the use of streets.

4. That the business be such that it is a natural monopoly or nearly so, with the result that the seller and the buyer are not on an equal bargaining basis.

Some businesses have been held by this Court to be affected with a public interest, although not all four of the above listed elements will be found in

them. One example is the grain elevator and warehouse business, as to which state statutes fixing maximum rates were upheld in *Munn* v. *Illinois*, 94 U. S. 113, *Budd* v. *New York*, 143 U. S. 517, *Brass* v. *North Dakota ex rel. Stoeser*, 153 U. S. 391. Another example is the insurance business, as to which a Kansas statute prescribing rates on premiums was upheld in *German Alliance Insurance Company* v. *Lewis*, 233 U. S. 389. Leading cases illustrating the limitations of the principle are *Chas. Wolff Packing Company* v. *Court of Industrial Relations of the State of Kansas*, 262 U. S. 522, and *Tyson and Brother* v. *Banton et al.*, 273 U. S. 418. Insurance companies do not, either as a matter of practice or of legal obligation, serve all customers without discrimination and do not enjoy any special franchises or the power of eminent domain.

Broadcasting stations, either partly or wholly, contain all four of the elements usually found in public utilities. By reason of the laws of nature they serve the entire public within their service area without discrimination; if they attempted discrimination by employing a form of transmission which could be received only by a special patented device and could not be received by the ordinary receiving set, the Government would soon put an end to the practice. That they are under an obligation to give service during all hours at which the public usually expects to receive broadcasting

has already been recognized by the Commission. It is true they can not charge their listeners; but nevertheless the compensation from the listeners is without discrimination; nature has fixed the price as nothing so far as money goes, and the compensation consists in the creation of good will and other ordinary results of advertising.

A very important element is the enjoyment of a franchise. A broadcasting station has such a franchise in its license to use one of the limited number of channels, a privilege which is necessarily restricted to very few persons and can not be enjoyed by all. The element of a natural monopoly is also present, particularly in the many communities of the United States which have only one broadcasting station in operation. The listener has no opportunity or power to bargain as to what programs he shall receive in any part of the country.

IV

THE COMMISSION DID NOT ERR IN ITS DECISION OF OCTOBER 12, 1928

Under this heading the Commission assumes the validity of the Act and of General Order 40 and other regulations so far as they are involved in this case. There is, therefore, no question of either any property right, or as to whether the Commission should have provided 50 cleared channels instead of 40, or as to whether the Commission should not have assigned the channel of 790 kc. to the Fifth Zone, or as to whether the Commission is justified in re-

quiring every applicant to specify definitely the channel, the power, the hours of operation which he seeks to have the Commission grant him.

As one point (Brief, p. 38) we took the position that an application for renewal is *granted,* not denied, even though the new license differs in some respect from the former one, and that, therefore, there was no legal obligation on the Commission to hold a hearing and no legal right in the applicant to appeal. There is nothing to add to what was said on the subject. The Commission will, for the purpose of this discussion, accept respondent's construction of the Act with reference to such an application.

1. *Section 11 of the Radio Act of 1927 does not require a hearing on an application which on its face discloses that it can not be granted without violating some provision of the law or a valid regulation of the Commission.*

Under respondent's construction its application for renewal dated January 14, 1928, asked for a license to operate full time on 790 kc., with 50 kw. power. It certainly did not ask for any channel "substantially equivalent."

By reason of the Commission's General Order 40 on August 30, 1928, which is assumed to be valid, that channel was assigned to the Fifth Zone and was not available to any station in the First Zone for operation after sunset on the Pacific Coast. It thus became impossible to grant the application for renewal. Ample opportunity was given respondent

to make application for other channels which were substantially equivalent and a procedure was devised for hearings on such applications. Respondent followed the procedure to the extent of using and filing the forms provided but insisted on repeating its application for the same channel, and, in addition, on asking for power three times as great as the maximum permitted by the Commission's regulations. This was the application for modification filed October 5, 1928, denied by the Commission October 12, 1928. This application did *not* ask or even suggest a channel " substantially equivalent "; it stood on the demand for 790 kc.

Whether, then, the application for renewal alone be considered, or whether it be considered as modified by the application filed October 5, 1928, it disclosed on its face that it could not be granted without violating the provisions of General Order 40 and destroying the principles of equalization and of engineering upon which it was based.

The due process clause does not require a hearing where a hearing would be a useless ceremony. Section 11 requires a hearing on the issue, when duly raised by a proper application, as to whether the granting of an application will serve public interest, convenience, or necessity.

In *Smith et al.* v. *Foster et al.*, 15 F. (2d) 115, 116 (D. C., S. D. N. Y., 1926), Judge Thacher said with reference to an appeal proceeding involving the issuance of a liquor permit, the following:

> * * * The application upon its face may disclose circumstances justifying its denial without a hearing. Facts conceded or not disputed in the correspondence between the Commissioner or his subordinates and the applicant may also justify a summary refusal of a permit. Uncontroverted facts may of course be accepted and acted upon without formal hearing, and where the conceded facts are sufficient to warrant refusal of the permit, certainly the applicant can not complain if a hearing be not granted. Hence it would have been uselessly burdensome had the statute required a hearing upon every application. From its failure to do so it is to be plainly inferred that Congress intended that such hearings should only be had when required in the proper and lawful exercise of judicial discretion.

Suppose an application for a license, or for a renewal of license, or for a modification of license, discloses that the applicant is an alien. Under the provisions of Section 12 (Brief, p. 126) the Commission is forbidden to grant a license to such an applicant. Is a hearing necessary under Section 11?

Suppose the application discloses that the applicant has been adjudged guilty of unlawfully monopolizing radio communication. Under Section 13 (Brief, p. 126) the Commission is directed to refuse a license or permit to such an applicant. Is a hearing necessary under Section 11?

These questions answer themselves. In spite of the seemingly broad language of Section 11, a hear-

ing is not necessary where the application discloses that it can not be granted. Theoretically one is entitled to a hearing in court on any lawful claim he may have. This right does not prevent his case being thrown out of court without hearing if, on demurrer or motion to dismiss, his statement of his case in his declaration or other pleading reveals on its face that he is seeking something to which he is not entitled under the law.

The same reasoning applies with equal force to an application seeking something which can not be accorded the applicant under valid regulations of the Commission. Suppose the Commission should adopt a regulation to the effect that no person whose license has been revoked shall be heard on an application for a license filed within 6 months thereafter; or that no person whose application had been denied after hearing would be heard on another application for the same privileges filed within 6 months. Does Section 11 nevertheless require hearings on applications filed in violation of such regulations? If it does, of what use is the power given by Section 11 to prescribe rules and regulations governing hearings?

Under the International Radiotelegraph Convention signed at Washington in December, 1927, the United States is obligated to put into force certain regulations, designed chiefly for the purpose of preventing international interference. Suppose the Commission, in fulfilling international obligation, passes regulations to the effect that no application

will be entertained which seeks a license to operate antiquated apparatus such as a spark transmitter? Must a hearing be held nevertheless?

Suppose an applicant asks for a license to broadcast on a channel outside the broadcast band, on a channel devoted to ship or aeroplane communication or to transoceanic wireless, under regulations of the Commission; or he asks for one of the channels which the Commission has ruled should be reserved exclusively for Canadian stations. Must the useless ceremony of a hearing be indulged in?

Section 11 itself, however, is so worded as to negative the idea that hearings are necessary on all applications that are not granted. The issue on which it contemplates and requires hearings is whether public interest, convenience, or necessity would be served by the granting of an application. The use of the phrase and the manner in which it is carried through both of the two sentences covering hearings makes it clear that this was the intent of Congress. Furthermore, the mention of rules and regulations in connection with hearings means restrictions may be placed on them by the Commission. Forms, methods of pleading and presentation, and other formalities may be prescribed.

It seems to us that Section 11, therefore, must be construed as requiring a hearing only on a application which states a good case. If the Commission's regulations are valid, respondent's application did *not* state a good case.

2. *Ample opportunity for a hearing was afforded to and rejected by General Electric Company.*

The Fifth Amendment does not make rigid requirements as to the form which a hearing must take. It is usually considered sufficient that a party have a reasonable opportunity to be heard, on notice to all others interested. It is never considered improper or unlawful to make hearings subject to reasonable rules and regulations.

The opportunity given respondent in this case has been described at length in the "Statement." Respondent was advised of the procedure on September 11, 1928, and steadfastly and persistently refused to comply with it. All respondent had to do to have a hearing was to file an application specifying a channel available for full-time operation to stations in the First Zone, and respondent was so advised over and over again. There are eight cleared channels available to First Zone stations; the company would have this Court believe it is better entitled to one of those channels than one or more of the stations to which the Commission tentatively granted them. The Commission asks only that respondent specify which one; presumably respondent will choose the channel occupied by the station which, in its opinion, has the weakest case.

Once this procedure has been followed it becomes a comparatively simple matter to determine what are the issues and adjudicate them. WGY might, in such a hearing, compare itself with the

other station in point of priority, service rendered, needs of its listening public, and any other considerations which it thinks pertinent. The other station will have a similar opportunity. The result will be a record which will give the Court of Appeals something to pass upon, not an *ex parte* statement such as that upon which respondent would have the Court of Appeals adjudicate the rights of stations not before it.

The only other alternative would be for the Commission to call before it *all* the stations in the First Zone now assigned to cleared channels. This happens to be ten stations, because in two cases there is a division of time between stations. Instead of the applicant having the burden of selecting the weakest and most vulnerable station as a respondent, all ten stations must become parties to every controversy involving a cleared channel in the First Zone. This means that a hearing which now takes 1 to 3 days will in every case take 10 to 30 days, with unnecessary parties constantly under the burden of making a record to protect themselves on appeal. If General Order 40 is not held valid, it may mean that *every* broadcasting station is a party to every controversy.

After almost two years of careful study the Commission (which includes a former justice of the highest court in West Virginia and another of the highest court in Mississippi) and its Legal Division are convinced that its present procedure is the *only*

one adapted to the peculiar issues raised in controversies between broadcasting stations. It is the only one which squares with engineering facts. Any other involves tremendous hardship and unnecessary expense to stations, tremendous waste of time and money by the Government, and confusion which will lead to injustice. The Commission earnestly urges that this Court uphold this procedure. The only harm which respondent will suffer is, it will have to demonstrate to the Commission, and, on appeal, to the Court of Appeals, it is better entitled to full time operation on a cleared channel than some other First Zone station. With the great equities in its favor it can not be that General Electric Company is afraid of such a test of the excellence of its station.

V

GENERAL ORDER 40 IS A VALID REGULATION

The cornerstone of the allocation of broadcasting stations in the broadcast band, by which the assignments of over 600 broadcasting stations are determined (as well as the rights of the five zones and indirectly the States within each zone, and the rights of Canadian stations) and protected, is General Order 40. (R. 100.) If this order is valid, it is the end of respondent's case. It is supplemented by General Order 42, which, inasmuch as it merely deals with the power which may be used on cleared channels, is not of vital importance in this appeal. (R. 110.)

It would be superfluous to enter upon a discussion of legal principles as to what does or does not constitute a valid regulation. The general test is, of course, reasonableness in accordance with the standard prescribed by statute. A wide discretion necessarily has to be lodged with the administrative tribunal of experts invested with the legislative authority of promulgating regulations. The question of validity in a case such as the present is, therefore, primarily one of fact.

General Order 40 was enacted to attain two objects simultaneously, both prescribed by Congress: (1) To prevent interference and (2) to carry out the equalization provisions of Section 5 of the Amendatory Act of 1928. (Brief, p. 144.)

The mandate from Congress to carry out the first of these two objects is contained in Section 4, in which the Commission is instructed "as public convenience, interest, or necessity requires" to classify radio stations; to prescribe the nature of their service; to assign bands of frequencies to classes of stations, and to assign frequencies to individual stations and determine the power and hours of operation thereof; to determine the location of stations; to establish areas or zones to be served by any stations and (subparagraph f) to—

> Make such regulations not inconsistent with law as it may deem necessary to prevent interference between stations and to carry out the provisions of this Act: *Provided, however,* That changes in the wave

lengths, authorized power, in the character of emitted signals, or in the times of operation of any station, shall not be made without the consent of the station licensee unless, in the judgment of the commission, such changes will promote public convenience or interest or will serve public necessity or the provisions of this Act will be more fully complied with.

To carry out the second object the original Act of 1927, in Section 9, prescribed the following:

> In considering applications for licenses and renewals of licenses, when and in so far as there is a demand for the same, the licensing authority shall make such a distribution of licenses, bands of frequency of wave lengths, periods of time for operation, and of power among the different States and communities as to give fair, efficient, and equitable radio service to each of the same.

The Commission did very little to carry out either object during the first year of its existence. As a result of this Congress amended the second paragraph of Section 9 to read as follows:

> It is hereby declared that the people of all the zones established by section 2 of this Act are entitled to equality of radio broadcasting service, both of transmission and of reception, and in order to provide said equality the licensing authority shall as nearly as possible make and maintain an equal allocation of broadcasting licenses, of bands of frequency or wave lengths, of periods of time for opera-

tion, and of station power, to each of said zones when and in so far as there are applicants therefor; and shall make a fair and equitable allocation of licenses, wave lengths, time for operation, and station power to each of the States, the District of Columbia, the Territories and possessions of the United States within each zone, according to population.

The licensing authority shall carry into effect the equality of broadcasting service hereinbefore directed, whenever necessary or proper, by granting or refusing licenses or renewals of licenses, by changing periods of time for operation, and by increasing or decreasing station power, when applications are made for licenses or renewals of licenses: *Provided,* That if and when there is a lack of applications from any zone for the proportionate share of licenses, wave lengths, time of operation, or station power to which such zone is entitled, the licensing authority may issue licenses for the balance of the proportion not applied for from any zone, to applicants from other zones for a temporary period of ninety days each, and shall specifically designate that said apportionment is only for said temporary period. Allocations shall be charged to the State, District, Territory, or possession wherein the studio of the station is located and not where the transmitter is located.

In respondent's brief in the Court of Appeals in supposed support of the proposition that Congress

did not intend the Commission to make any change in the assignment of a station such as WGY, a quotation was set forth from the report of the House Committee on Merchant Marine and Fisheries with a very significant omission. We quote therefrom, with the omitted portion in italics:

> * * * The language does not contemplate the withdrawal of station licenses, of power, and of wave lengths from others, and an impounding thereof in the absence of applications from the third or other zones therefor. It does not suggest that the requirement of the law of a showing of public interest, convenience, or necessity as the basis for the grant of a license, or that other provisions of the law are to be waived. *It is intended, however, to require of the licensing authority that as soon as may be and in proper cases licenses in number and in kind shall be granted to applicants from this third zone and other sections of the country sufficient to bring equality in the particulars specified.* If, however, within the entire United States the saturation point is now reached and additional stations or additional power or other wave lengths may not be granted in a particular zone without prejudice to all, then it necessarily follows that there must be worked out a redistribution of the stations and of the power and of wave lengths now authorized. (House Report 800, Feb. 29, 1928.)

The first sentence in the foregoing simply means licenses need not be withdrawn or changed *in the absence of applications* from zones which did not have their share. As a matter of fact, there were not only applications, but a tremendous excess thereof, from the Third and Fifth Zones which were under quota. The last sentence in the foregoing is significant because it shows if the saturation point was already reached, "then it necessarily follows that there must be worked out a redistribution." The saturation point had not only been reached but far surpassed when the Commission first came into existence. There is no dispute anywhere among informed persons on this subject. The Court may see for itself the reasons therefor by considering the scientific facts set forth in Appendix D to this brief and the actual number of stations which the Commission had to deal with. Consequently, in the light of the facts, the Amendment was a specific and immediate command to withdraw facilities from the zones which had more than their share so that other zones, like the Third and Fifth, might have their share.

Respondent makes no charge General Order 40 is not a substantial accomplishment of the equalization required. While the assignments under it are not perfect, they are such that they can be bettered in accordance with an orderly scheme. As between the First and Fifth Zones the equality is

very close to being mathematically precise, particularly with respect to the cleared channels. Not only does each zone have 8 cleared channels, but on those channels each zone has three "limited time" assignments on the cleared channels assigned to the other zone.

Respondent's criticism, when reduced to its simplest terms, is simply that the Commission should have provided 50 cleared channels instead of 40, and in support of this criticism it urges (1) the Engineers' Report of April 11, 1928, and (2) the point of view of one of the five Commissioners. The Commission will show, in the light of the facts, it correctly decided, under the existing circumstances, there should be only 40 cleared channels, and that any excess of this number could not be provided without running counter to just as important a portion of the Engineers' Report as the recommendation with regard to cleared channels.

On respondent's theory the 40 cleared channels should be assigned to 40 stations engaged in full-time operation. By economic use of the engineering possibilities of these channels, however, the Commission has made them accommodate 80 stations, in some cases by division of time and in other cases by making use of differences in standard time between different parts of the country, and the fact that until two stations are linked by darkness interference areas are not usually created. (R. 134, et seq.) This left 554 stations to be disposed of, all of which according to the records and

facts in the Commission's possession seem to be performing a necessary, valuable, or popular service to some part of the country. These stations could be divided into two classes from the point of view of engineering, (1) *regional* stations with power from 250 watts to 100 watts, and (2) *local* stations with power of 100 watts or less. (See Engineers' Report, R. 305–309.)

According to the engineers the amount of duplication on a channel recommended for the first of these two classes was an average of 2½ stations to a channel; for the second class a much larger amount of duplication. The Commission assigned 40 channels for regional stations and has accommodated 292 stations on these channels (an average of over 7 to a channel), employing various devices, such as time division and use of daylight time, to increase the number over the minimum recommended by the engineers. (R. 134, et seq.) While some of these regional channels are consistent with the engineering recommendations as to geographic separation, others are already tremendously overloaded, so that service of existing stations will be practically ruined if other stations are placed on these channels. If any more stations are placed on regional channels, it will be in direct violation of the recommendation in the Engineers' Report.

The Commission assigned six channels to local stations, and on these six channels has accommodated 250 stations of 100 watts or less. (R. 134, et seq.) In some of the zones each of these channels

is already loaded to the point of saturation. None of them is a channel which respondent would willingly accept. No regional stations could be placed on any of these channels without violating the recommendations in the Engineers' Report, and ruining reception from a large number of 100-watt stations.

Six of the total of 96 channels in the broadcast band are, as previously explained, exclusively reserved for Canadian stations. The Commission does not believe respondent will question the international obligation which the United States owes in this respect. This leaves only four of the remaining 90 channels to be accounted for. These channels are near the upper limits of the broadcast band of frequencies (1,460, 1,470, 1,480, and 1,490 kc.) and are devoted to use by a total of twelve 5-kw. stations. They are not involved in this case because respondent must concede it would not under any circumstances take any such assignment.

To get a clear picture of what respondent is really contending for when it argues the Commission should have provided 10 additional cleared channels, the Commission urges that the court examine the present situation with regard to the stations now using the regional and local channels. If the number of cleared channels is to be increased, the number of either regional or local channels must be reduced by 10. The frequencies of the regional channels are set forth in subparagraph C and D of

General Order 40 (R. 102) and of the local stations in subparagraph E (R. 102–103). The Commission then urges the Court to take any one of these regional or local channels and ascertain which stations are now assigned to it as shown by the list set forth in the record (R. 134 et seq.). As an example of a regional channel the Commission points to 950 kc. (R. 141) which is used by four 100-watt stations and two 500-watt stations. One of these stations is WRC at Washington, D. C., with 500 watts. This is the type of station which must either be put out of existence altogether or crowded onto another channel already overloaded, so as to be able to give practically no service. To make the channel a cleared channel, 6 stations must be sacrificed for the sake of 1. Another example is 620 kc. with exactly the same number and kind of stations, one of them WTMJ at Milwaukee, Wis., the only station of any substantial size in the whole state of Wisconsin. Similar examples can be multiplied by examining each regional channel. To show the number of stations that must be discontinued or accommodated elsewhere on local channels we call the Court's attention to 1,200 kc. and 1,210 kc. (R. 145–147.)

When the Engineering Report is carefully examined, it will be seen that while it undoubtedly sets forth sound engineering principles it is based upon service in terms of *area* rather than population. It is true that high power stations on 50 cleared chan-

nels will serve greater *areas* than if 10 of these channels are devoted to regional stations. Obviously, however, the population centers are in the cities and their suburbs. Such centers can be excellently served by stations of 250 to 1,000 watts, which will in many instances even give good service into the surrounding regions. The cleared channels are primarily designed for reaching agricultural populations and remote places not served by local stations. A question such as this is one to be decided by the Commission, not by a voluntary association of engineers.

The Engineers' Report also assumes the Commission can arbitrarily put stations entirely out of existence without regard to the service rendered by them. The Commission held hearings on 164 stations in the summer of 1928 and most of them made showings that convinced the Commission that their continued operation is in the public interest. Where such a showing was not made the Commission discontinued the station. (See *Technical Radio Laboratory, Appellant* v. *Federal Radio Commission,* No. 4835, Court of Appeals, D. C., decided Nov. 4, 1929, U. S. Daily, Nov. 7, 1929.)

The status of the Engineers' Report has been persistently misrepresented. This was not a report by engineers employed at the time by or associated with the Commission. On April 6, 1928, the Commission held a conference with a number of radio engineers to consider the best means of carrying out the equalization amendment. It had previously

submitted the problem to a group of experts, which on March 30, 1928, had submitted a memorandum accompanied by two sample allocations, one calling for 50 cleared channels and the other for 30 cleared channels. (R. 286–303.) At the conference on April 6th the engineers present favored the first of these two. It happens, however, the chairman of this conference later became the chief engineer of the Commission and played an important part in working out of General Order 40, and the allocation thereunder. He approved it at the time it was adopted and has come out publicly many times in support of it.

Engineering recommendations are not, however, the only considerations which must enter into a decision such as that made by the Commission. On April 23, 1928, the Commission held a further hearing to permit the radio industry to express its views on the proper method of applying the equalization amendment.

The National Association of Broadcasters, the Federal Radio Trades Association, and the Radio Manufacturers Association presented plans which in essence recommended no immediate increase of cleared channels and only a gradual increase in the future. (R. 313–329.) The National Electrical Manufacturers Association, through its vice president, made a recommendation calling for 28 cleared channels. (R. 329–333.) Congressman Davis, one of the leading authorities on radio legislation in the House, recommended 25 cleared channels.

(R. 309–313.) There were other miscellaneous proposals which are discussed by Dr. Dellinger in his memorandum. (R. 333–338.) The Commission thus had before it all sorts of conflicting proposals from among which it had to choose. After several months of arduous labor it worked out its own scheme, with the assistance of its own engineers (consisting not only of Dr. Dellinger but radio experts from the Army and Navy and a large proportion of the engineers who had taken part in the conference of April 6th). Commissioner Caldwell from whose letters respondent quoted in the Court of Appeals, voted for General Order 40, voted for the allocation under it, and publicly came out in support of both. The result was General Order 40.

Another very important element in the problem which had to be considered by the Commission and about which it may be presumed to know a great deal more than the engineers, is the need of the country for different *kinds* of broadcasting service.

A station on a cleared channel must restrict its programs to matters of general interest. There is, however, a widespread insistent demand for programs of a regional or of a local interest, such as State or municipal election returns, civic and philanthropic enterprises, local banquets, church services, political campaigns and the like, for which a multiplicity of small stations is necessary. The comparative needs for these types of service are not engineering problems and can not be delegated to

a voluntary group of engineers to decide; they are the very essence of what is in the public interest, convenience or necessity.

It is significant respondent has at no time suggested another allocation which will accommodate the stations which had to be accommodated, if 10 additional cleared channels were to be established. Respondent is, of course, indifferent to the fate of smaller stations, such as WRC in Washington, and is content to attempt to create the impression that all that is necessary to accomplish what it desires is, figuratively, a wave of the hand.

No great assistance will be found in decisions interpreting the phrase "public interest, convenience, or necessity" as applied to railroads, although there are many analogies possible between broadcasting stations and public service corporations. The one element which distinguishes radio communication, however, from other kinds of businesses is the fact that due to physical laws the number who can participate in it is rigidly limited. If, therefore, the population of the entire country is to receive an equitable share of broadcasting service, some parts of the country must be prevented from having an excess of such service. No other interpretation of the phrase "public interest, convenience, or necessity" is possible when applied to broadcasting stations. If broadcasting stations are public utilities, all the citizens of the United States have a claim on a share of this service, and Congress has so

declared in Section 5 of the Amendatory Act. It must be remembered General Order 40 is not the last word in broadcasting assignments. It may be stations will drop out or cease to give satisfactory service to an extent permitting or requiring a different arrangement of channels. It may be the science will make sufficient progress so that stations can operate simultaneously on the same channel to a greater extent than at present. If and when such time arrives, then a new set of regulations will be adopted by the Commission accordingly.

One more circumstance should be mentioned which is expressed more fully in Appendix D. As a part of the plan to avoid interference between stations it was necessary stations on adjacent or nearly adjacent channels be given a fairly wide geographic separation. As to stations located in the same metropolitan area the Commission has attempted to observe a minimum of a separation of 5 channels, and whenever possible an even greater separation. Even in the same zones, particularly in the smaller ones, the Commission has endeavored to preserve a separation of at least two channels. This is necessary primarily because of limitations on receiving sets. To recognize this principle in a scientific allocation it was necessary to redistribute many channels, taking them from one zone for use in another. The result of this and other considerations was that the assignment of 94% of all broad-

casting stations were changed in the new allocation. General Electric Company, which acquired full-time use of two cleared channels for its stations at Denver and Oakland (which stations did not have such assignment prior to November 11, 1928), and the next most favorable kind of assignment for WGY, really benefited tremendously from the new allocation and is now serving an area greater literally by thousands of square miles than it did prior to that time.

At the time the Commission held its first meeting on March 15, 1927, there were 732 broadcasting stations in operation under licenses from the Secretary of Commerce. These stations ranged in power from 5 watts to 50 kw. and were distributed over the entire broadcast band without order or reason. Many stations were on frequencies other than the even multiples of 10. There were no cleared channels anywhere in the entire band. Stations in the same cities, particularly in New York and Chicago, were separated by such narrow margins of frequency as to make it impossible for a large proportion of the listeners located in those cities to get satisfactory service from their own stations. Stations had even located on the Canadian exclusive channels in violation of the informal agreement which had been in force for some time between the Department of Commerce and the Radio Administrator in Canada. Many high-powered stations were located on the Canadian-shared frequencies. In a word,

there was complete chaos and anarchy in the broadcast band.

The events leading up to this state of affairs may be briefly summarized. The first broadcasting station came into existence in the fall of 1920. It was licensed by the Secretary of Commerce under the Radio Act of 1912 on the theory that this Act not only covered broadcast stations but gave authority to the Secretary of Commerce to assign frequencies, power, and hours of operation. Other broadcasting stations rapidly came into existence. At first they were all assigned to the same frequencies, and in 1922 they were assigned to two different frequencies. In February, 1923, the Court of Appeals rendered the first decision construing the Radio Act of 1912 (*Hoover* v. *Intercity Radio Co., Inc.*, 286 Fed. 1003), although its construction was the subject of an opinion by Attorney General Wickersham on November 22, 1912 (29 Op. 579). The Court of Appeals held the Act, properly construed, made it mandatory upon the Secretary of Commerce to grant a license to an applicant and, among other things, said the following:

> In the present case the duty of naming a wave length is mandatory upon the Secretary. The only discretionary act is in selecting a wave length, within the limitations prescribed in the statute, which, in its judgment, will result in the least possible interference. The issuing of a license is not dependent upon the fixing of a wave length.

It is a restriction entering into the license. The wave length named by the Secretary merely measures the extent of the privilege granted to the licensee.

Thereafter broadcasting stations rapidly increased, but the Secretary of Commerce continued to exercise the authority which the court had upheld of assigning frequencies, etc.

By the spring of 1926 there were in existence nearly 600 stations. The situation was described by Secretary of Commerce Hoover at a meeting known as the Fourth National Radio Conference held at Washington in November, 1925, as follows:

> Up to the present time we have had a policy of absolute freedom and untrammeled operation, a field open to all who wished to broadcast for whatever purpose desired. I am convinced that policy was sound. It resulted in a wonderfully extensive development which could have been obtained in no other way. We have to-day 578 stations, and as no more than four of them are under the same management no one can say there is not plenty of competition. To-day every solitary channel in the ether is occupied by at least one broadcasting station and many of them by several. Of the 578 stations 197 are using at least 500 watts of power, and there are now pending before the Department of Commerce over 175 applications for new licenses.
>
> It is simply a physical fact that we have no more channels. It is not possible to furnish

> them under the present state of technical development. It takes no argument to demonstrate that 89 wave lengths (and no more are available) can not be made to serve innumerable stations, no matter how ingenious we may be in arranging time divisions and geographical separations. It is not a question of what we would like to do but what we must do.

In a general way the plan followed by the Secretary of Commerce was to divide all broadcasting stations into two classes, Class A and Class B. Class B stations were assigned frequencies in the lower half of the frequency band (the longer waves) and were given the equivalent of what is now called a clear channel. Class A stations were duplicated in increasing numbers in the other half of the band. As new applications came on it was impossible to accord them substantial privilege without serious detriment to the existing stations.

During the first session of the 69th Congress in 1926 a Bill for the regulation of radio communication (H. R. 9971), which in amended form became the Radio Act of 1927, was reported to the House of Representatives from the Committee on Merchant Marine and Fisheries on March 12, 1926, by Congressman White of Maine, who made the following statement:

> * * * The necessity for radio legislation has in recent years been often called to the attention of your committee by the Department of Commerce; consideration of the

problem and action with respect to it have been urged on the Congress by two Chief Executives. The great listening public and representatives of those directly connected with the radio industry have urged upon us the need for congressional action. The most recent and authoritative utterance by the radio world was given by the Fourth National Radio Conference, held in Washington November, 1925. The conference was attended by about 500, including representatives of the listeners of broadcasting stations, amateurs, manufacturers, engineering societies, Government departments, and many others. It formally expressed the opinion that existing Federal statutes are inadequate to permit proper administration of existing radio activities, and that the public interest required that legislation be enacted. It followed these general recommendations with detailed suggestions. The pending bill is your committee's response to these requests; it is our contribution to the solution of the difficulties which are so generally recognized.

* * * * *

The inadequacy of existing law, the pressing need for legislation, as to which there is complete unanimity of testimony, is attributable to the extraordinary developments in radio which have come within the recent years. Marconi discovered in 1895 a system by which the distance over which electric waves could be transmitted and detected was greatly increased. The application of this

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system to practical purposes came slowly. In 1912 the principal use of radio was for communication between ships and between ships and shore. In this year, 1912, the Marconi Co. of America was organized. It operated at that time 60 shore stations for ship communication, including one capable of transmitting to ships 2,000 miles distant. There were approximately 600 ships upon the seas equipped for radio communication. Transoceanic communication was in its swaddling clothes. There were no other practical uses of radio.

It was in this state of the art that the existing law of 1912 was enacted. Congress did not attempt at that time to regulate or to give power to regulate unknown and nonexistent means or methods of communication. It dealt only with known factors. The legislation was appropriate to that day.

Since 1912 the progress of the art and of the industry has been amazing. Wave lengths unknown then have become of common use. Power undreamed of is to-day projecting electric energy across continents and over seas. There has come the transmission of writing, of pictures, compass reports, beacon signals, radio telephony, and radio broadcasting. Upon the oceans of the world more than 12,000 ships are to-day warned of storm and stress of weather, are given their bearings and directions, send out their calls in time of danger. In the United States alone there are in operation 15,111 amateur stations, 1,901 ship stations, 553

land stations, 536 broadcasting stations. For these broadcasting stations there are now available but 89 different wave lengths, or an average of over six stations to each wave length. The Government's task is to regulate and control a situation of such complexity under a statute framed under the conditions and with the knowledge existing in 1912. It has been held by the Court of Appeals of the District of Columbia that it is mandatory upon the Secretary of Commerce under the Act of 1912 to issue a license to transmit to every applicant. The problem has been, therefore, how to distribute a limited number of wave lengths among an unlimited number of stations. By various expedients, by division of time, by power limitation, by geographical separation, and by other means of doubtful legal authority the department has sought to solve a difficulty which is inherent in the situation if there is a right in everyone who wishes to transmit to do so.

The congestion in the broadcasting field—and it is this means of communication in which the public is chiefly interested—minimizes the value of all stations. There is inequitable geographical distribution of stations, overlapping of areas served, confusion and intolerable interference, and, bad as the situation now is, it threatens to be worse. There are now on file in the department approximately 425 applications. Add those to the 536 now outstanding and we would have a total of 961, or 11 stations for each wave

length. Such a result means the complete breakdown of broadcasting service within the United States. This result is inevitable under existing law. It is universally recognized. Its appreciation is responsible for the widespread interest in radio legislation and for the general hope that Congress will confer the powers necessary to avert the impending calamity.

* * * * *

* * * We have reached the definite conclusion that the right of all our people to enjoy this means of communication can be preserved only by the repudiation of the idea underlying the 1912 law that anyone who will may transmit and by the assertion in its stead of the doctrine that the right of the public to service is superior to the right of any individual to use the ether. This is the first and the most fundamental difference between the pending bill and present law.

The recent radio conference met this issue squarely. It recognized that in the present state of scientific development there must be a limitation upon the number of broadcasting stations, and it recommended that licenses should be issued only to those stations whose operation would render a benefit to the public, are necessary in the public interest, or would contribute to the development of the art. This principle was approved by every witness before your committee. We have written it into the bill. If enacted into law, the broadcasting priv-

ilege will not be a right of selfishness. It will rest upon an assurance of public interest to be served. The same rule is asserted with respect to other forms of transmission.

We have sought in other ways to make more certain a proper regard for public as opposed to private right. Under existing law, there is no limitation upon the right of the Secretary to grant licenses for such time as he approves. He might grant a license for 50, a 100 years, or in perpetuity. In the present bill we definitely challenge and curtail this power.

* * * * *

Existing law gives the Secretary no control over the location of stations. The result has been an unjustifiable grouping of stations within limited areas. There are within 50 miles of Chicago 40 stations, of New York 38, of Philadelphia 22, and of San Francisco 22. Stations so centered detract from the value of each other and interfere with the highest quality of service. In the bill before you the Secretary is given authority in passing upon a license to consider its proposed location and the area to be served thereby, and he is enjoined to effect an equitable geographical distribution of stations over the entire country.

In the spring of 1926, a Chicago station, WJAZ, broadcasted on a frequency and at hours not authorized under its license, it being dissatisfied with the assignment given it by the Secretary of Commerce. This led to a prosecution by the govern-

ment resulting in a decision by Judge Wilkerson at Chicago (reported in *United States* v. *Zenith Radio Corporation et al.*, 12 F. (2d) 614). Judge Wilkerson made a finding for the defendants based chiefly on his opinion that the prosecution had been brought under the wrong section of the statute. He went on, however, to construe the statute as giving power to the Secretary of Commerce to restrict the operation of a station with respect to frequency, power, and hours of operation but intimated that the statute might be void for failure to lay down a test of the standard controlling the Secretary's discretion.

This decision was followed by an opinion from the Attorney General on July 8, 1926. (35 Op. 126.) In this opinion the Act was again construed, but in different fashion from that indicated in Judge Wilkerson's opinion, although the result was the same. The Attorney General held the Secretary of Commerce had no power to restrict the operation of a station with reference to frequency, power, or hours of operation, and that the Secretary had to issue a license to an applicant for the frequency requested. As a result of this opinion, the Department of Commerce, on July 9, 1926, issued a bulletin reciting the fact that the law as construed by the Attorney General did not give it the authority which it thought it had and virtually announced the stations would be free to operate on such frequencies as they chose until further legislation by Congress. There followed the period known as

"the breakdown of the law" in which nearly 200 new broadcasting stations came into existence and a large portion of the older stations "jumped" to other frequencies which they considered more favorable, increased their power, and operated full time instead of part time.

President Coolidge in his message to Congress December 7, 1926, recommended further legislation. His message in part is as follows:

> Due to the decisions of the courts, the authority of the department under the law of 1912 has broken down; many more stations have been operating than can be accommodated within the limited number of wave lengths available; further stations are in course of construction; many stations have departed from the scheme of allocation set down by the department, and the whole service of this most important public function has drifted into such chaos as seems likely, if not remedied, to destroy its great value. I most urgently recommend that this legislation should be speedily enacted.

It was the above-described chaos which the Radio Act of 1927, among other things, designed to do away with, and if one reads the contemporary accounts correctly, the first purpose in creating the Commission at that time was to bring order out of chaos by an orderly arrangement of broadcasting stations. This meant, and was understood by everyone to mean, an elimination as far as possible of the interference which was ruining radio recep-

tion throughout the country by a reduction of the number of stations operating simultaneously, through a division of time, etc., and a scientific assignment of facilities to them so that the maximum possibilities of the broadcast band might be put to use. In a word, the Commission was instructed by Congress to make a new allocation of broadcasting stations for the benefit of the listening public.

General Order 40 is the accomplishment of the task for which the Commission was primarily created.

Respectfully submitted.

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General Counsel.

PAUL M. SEGAL,
Assistant General Counsel.

APPENDIX A

[PUBLIC—No. 632—69TH CONGRESS]

[H. R. 9971]

An Act For the regulation of radio communications, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act is intended to regulate all forms of interstate and foreign radio transmissions and communications within the United States, its Territories and possessions; to naintain the control of the United States over all the channels of interstate and foreign radio transmission; and to provide for the use of such channels, but not the ownership thereof, by individuals, firms, or corporations, for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license. That no person, firm, company, or corporation shall use or operate any apparatus for the transmission of energy or communications or signals by radio (a) from one place in any Territory or possession of the United States or in the District of Columbia to another place in the same Territory, possession, or District; or (b) from any State, Territory, or possession of the United States, or from the District of Columbia to any other State, Territory, or possession of the United States; or (c) from any place in any State, Territory, or possession of the United States, or in the District of

Columbia, to any place in any foreign country or to any vessel; or (d) within any State when the effects of such use extend beyond the borders of said State, or when interference is caused by such use or operation with the transmission of such energy, communications, or signals from within said State to any place beyond its borders, or from any place beyond its borders to any place within said State, or with the transmission or reception of such energy, communications, or signals from and/or to places beyond the borders of said State; or (e) upon any vessel of the United States; or (f) upon any aircraft or other mobile stations within the United States, except under and in accordance with this Act and with a license in that behalf granted under the provisions of this Act.

SEC. 2. For the purposes of this Act, the United States is divided into five zones, as follows: The first zone shall embrace the States of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Delaware, Maryland, the District of Columbia, Porto Rico, and the Virgin Islands; the second zone shall embrace the States of Pennsylvania, Virginia, West Virginia, Ohio, Michigan, and Kentucky; the third zone shall embrace the States of North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Arkansas, Louisiana, Texas, and Oklahoma; the fourth zone shall embrace the States of Indiana, Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Iowa, Nebraska, Kansas, and Missouri; and the fifth zone shall embrace the States of Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Wash-

ington, Oregon, California, the Territory of Hawaii, and Alaska.

SEC. 3. That a commission is hereby created and established to be known as the Federal Radio Commission, hereinafter referred to as the commission, which shall be composed of five commissioners appointed by the President, by and with the advice and consent of the Senate, and one of whom the President shall designate as chairman: *Provided,* That chairmen thereafter elected shall be chosen by the commission itself.

Each member of the commission shall be a citizen of the United States and an actual resident citizen of a State within the zone from which appointed at the time of said appointment. Not more than one commissioner shall be appointed from any zone. No member of the commission shall be financially interested in the manufacture or sale of radio apparatus or in the transmission or operation of radiotelegraphy, radiotelephony, or radio broadcasting. Not more than three commissioners shall be members of the same political party.

The first commissioners shall be appointed for the terms of two, three, four, five, and six years, respectively, from the date of the taking effect of this Act, the term of each to be designated by the President, but their successors shall be appointed for terms of six years, except that any person chosen to fill a vacancy shall be appointed only for the unexpired term of the commissioner whom he shall succeed.

The first meeting of the commission shall be held in the city of Washington at such time and place as the chairman of the commission may fix. The com-

mission shall convene thereafter at such times and places as a majority of the commission may determine, or upon call of the chairman thereof.

The commission may appoint a secretary, and such clerks, special counsel, experts, examiners, and other employees as it may from time to time find necessary for the proper performance of its duties and as from time to time may be appropriated for by Congress.

The commission shall have an official seal and shall annually make a full report of its operations to the Congress.

The members of the commission shall receive a compensation of $10,000 for the first year of their service, said year to date from the first meeting of said commission, and thereafter a compensation of $30 per day for each day's attendance upon sessions of the commission or while engaged upon work of the commission and while traveling to and from such sessions, and also their necessary traveling expenses.

SEC. 4. Except as otherwise provided in this Act, the commission, from time to time, as public convenience, interest, or necessity requires, shall—

(a) Classify radio stations;

(b) Prescribe the nature of the service to be rendered by each class of licensed stations and each station within any class;

(c) Assign bands of frequencies or wave lengths to the various classes of stations, and assign frequencies or wave lengths for each individual station and determine the power which each station shall use and the time during which it may operate;

(d) Determine the location of classes of stations or individual station;

(e) Regulate the kind of apparatus to be used with respect to its external effects and the purity and sharpness of the emissions from each station and from the apparatus therein;

(f) Make such regulations not inconsistent with law as it may deem necessary to prevent interference between stations and to carry out the provisions of this Act: *Provided, however,* That changes in the wave lengths, authorized power, in the character of emitted signals, or in the times of operation of any station, shall not be made without the consent of the station licensee unless, in the judgment of the commission, such changes will promote public convenience or interest or will serve public necessity or the provisions of this Act will be more fully complied with;

(g) Have authority to establish areas or zones to be served by any station;

(h) Have authority to make special regulations applicable to radio stations engaged in chain broadcasting;

(i) Have authority to make general rules and regulations requiring stations to keep such records of programs, transmissions of energy, communications, or signals as it may deem desirable;

(j) Have authority to exclude from the requirements of any regulations in whole or in part any radio station upon railroad rolling stock, or to modify such regulations in its discretion;

(k) Have authority to hold hearings, summon witnesses, administer oaths, compel the production of books, documents, and papers and to make such investigations as may be necessary in the performance of its duties. The commission may make

such expenditures (including expenditures for rent and personal services at the seat of government and elsewhere, for law books, periodicals, and books of reference, and for printing and binding) as may be necessary for the execution of the functions vested in the commission and, as from time to time may be appropriated for by Congress. All expenditures of the commission shall be allowed and paid upon the presentation of itemized vouchers therefor approved by the chairman.

SEC. 5. From and after one year after the first meeting of the commission created by this Act, all the powers and authority vested in the commission under the terms of this Act, except as to the revocation of licenses, shall be vested in and exercised by the Secretary of Commerce; except that thereafter the commission shall have power and jurisdiction to act upon and determine any and all matters brought before it under the terms of this section.

It shall also be the duty of the Secretary of Commerce—

(A) For and during a period of one year from the first meeting of the commission created by this Act, to immediately refer to the commission all applications for station licenses or for the renewal or modification of existing station licenses.

(B) From and after one year from the first meeting of the commission created by this Act, to refer to the commission for its action any application for a station license or for the renewal or modification of any existing station license as to the granting of which dispute, controversy, or conflict arises or against the granting of which protest is

filed within ten days after the date of filing said application by any party in interest and any application as to which such reference is requested by the applicant at the time of filing said application.

(C) To prescribe the qualifications of station operators, to classify them according to the duties to be performed, to fix the forms of such licenses, and to issue them to such persons as he finds qualified.

(D) To suspend the license of any operator for a period not exceeding two years upon proof sufficient to satisfy him that the licensee (a) has violated any provision of any Act or treaty binding on the United States which the Secretary of Commerce or the commission is authorized by this Act to administer or by any regulation made by the commission or the Secretary of Commerce under any such Act or treaty; or (b) has failed to carry out the lawful orders of the master of the vessel on which he is employed; or (c) has wilfully damaged or permitted radio apparatus to be damaged; or (d) has transmitted superfluous radio communications or signals or radio communications containing profane or obscene words or language; or (e) has willfully or maliciously interfered with any other radio communications or signals.

(E) To inspect all transmitting apparatus to ascertain whether in construction and operation it conforms to the requirements of this Act, the rules and regulations of the licensing authority, and the license under which it is constructed or operated.

(F) To report to the commission from time to time any violations of this Act, the rules, regulations, or orders of the commission, or of the terms or conditions of any license.

(G) To designate call letters of all stations.

(H) To cause to be published such call letters and such other announcements and data as in his judgment may be required for the efficient operation of radio stations subject to the jurisdiction of the United States and for the proper enforcement of this Act.

The Secretary may refer to the commission at any time any matter the determination of which is vested in him by the terms of this Act.

Any person, firm, company, or corporation, any State or political division thereof aggrieved or whose interests are adversely affected by any decision, determination, or regulation of the Secretary of Commerce may appeal therefrom to the commission by filing with the Secretary of Commerce notice of such appeal within thirty days after such decision or determination or promulgation of such regulation. All papers, documents, and other records pertaining to such application on file with the Secretary shall thereupon be transferred by him to the commission. The commission shall hear such appeal de novo under such rules and regulations as it may determine.

Decisions by the commission as to matters so appealed and as to all other matters over which it has jurisdiction shall be final, subject to the right of appeal herein given.

No station license shall be granted by the commission or the Secretary of Commerce until the applicant therefor shall have signed a waiver of any claim to the use of any particular frequency or wave length or of the ether as against the regulatory power of the United States because of the

previous use of the same, whether by license or otherwise.

SEC. 6. Radio stations belonging to and operated by the United States shall not be subject to the provisions of sections 1, 4, and 5 of this Act. All such Government stations shall use such frequencies or wave lengths as shall be assigned to each or to each class by the President. All such stations, except stations on board naval and other Government vessels while at sea or beyond the limits of the continental United States, when transmitting any radio communication or signal other than a communication or signal relating to Government business shall conform to such rules and regulations designed to prevent interference with other radio stations and the rights of others as the licensing authority may prescribe. Upon proclamation by the President that there exists war or a threat of war or a state of public peril or disaster, or other national emergency, or in order to preserve the neutrality of the United States, the President may suspend or amend, for such time as he may see fit, the rules and regulations applicable to any or all stations within the jurisdiction of the United States as prescribed by the licensing authority, and may cause the closing of any station for radio communication and the removal therefrom of its apparatus and equipment, or he may authorize the use or control of any such station and/or its apparatus and equipment by any department of the Government under such regulations as he may prescribe, upon just compensation to the owners. Radio stations on board vessels of the United States Shipping Board or the United States

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Shipping Board Emergency Fleet Corporation or the Inland and Coastwise Waterways Service shall be subject to the provisions of this Act.

SEC. 7. The President shall ascertain the just compensation for such use or control and certify the amount ascertained to Congress for appropriation and payment to the person entitled thereto. If the amount so certified is unsatisfactory to the person entitled thereto, such person shall be paid only 75 per centum of the amount and shall be entitled to sue the United States to recover such further sum as added to such payment of 75 per centum which will make such amount as will be just compensation for the use and control. Such suit shall be brought in the manner provided by paragraph 20 of section 24, or by section 145 of the Judicial Code, as amended.

SEC. 8. All stations owned and operated by the United States, except mobile stations of the Army of the United States, and all other stations on land and sea, shall have special call letters designated by the Secretary of Commerce.

Section 1 of this Act shall not apply to any person, firm, company, or corporation sending radio communications or signals on a foregin ship while the same is within the jurisdiction of the United States, but such communications or signals shall be transmitted only in accordance with such regulations designed to prevent interference as may be promulgated under the authority of this Act.

SEC. 9. The licensing authority, if public convenience, interest, or necessity will be served thereby, subject to the limitations of this Act, shall grant to any applicant therefor a station license provided for by this Act.

In considering applications for licenses and renewals of licenses, when and in so far as there is a demand for the same, the licensing authority shall make such a distribution of licenses, bands of frequency of wave lengths, periods of time for operation, and of power among the different States and communities as to give fair, efficient, and equitable radio service to each of the same.

No license granted for the operation of a broadcasting station shall be for a longer term than three years and no license so granted for any other class of station shall be for a longer term than five years, and any license granted may be revoked as hereinafter provided. Upon the expiration of any license, upon application therefor, a renewal of such license may be granted from time to time for a term of not to exceed three years in the case of broadcasting licenses and not to exceed five years in the case of other licenses.

No renewal of an existing station license shall be granted more than thirty days prior to the expiration of the original license.

SEC. 10. The licensing authority may grant station licenses only upon written application therefor addressed to it. All applications shall be filed with the Secretary of Commerce. All such applications shall set forth such facts as the licensing authority by regulation may prescribe as to the citizenship, character, and financial, technical, and other qualifications of the applicant to operate the station; the ownership and location of the proposed station and of the stations, if any, with which it is proposed to communicate; the frequencies or wave lengths and the power desired to be used; the hours of the day

or other periods of time during which it is proposed to operate the station; the purposes for which the station is to be used; and such other information as it may require. The licensing authority at any time after the filing of such original application and during the term of any such license may require from an applicant or licensee further written statements of fact to enable it to determine whether such original application should be granted or denied or such license revoked. Such application and/or such statement of fact shall be signed by the applicant and/or licensee under oath or affirmation.

The licensing authority in granting any license for a station intended or used for commercial communication between the United States or any Territory or possession, continental or insular, subject to the jurisdiction of the United States, and any foreign country, may impose any terms, conditions, or restrictions authorized to be imposed with respect to submarine-cable licenses by section 2 of an Act entitled "An Act relating to the landing and the operation of submarine cables in the United States," approved May 24, 1921.

SEC. 11. If upon examination of any application for a station license or for the renewal or modification of a station license the licensing authority shall determine that public interest, convenience, or necessity would be served by the granting thereof, it shall authorize the issuance, renewal, or modification thereof in accordance with said finding. In the event the licensing authority upon examination of any such application does not reach such decision with respect thereto, it shall notify the applicant thereof, shall fix and give notice of a time and

place for hearing thereon, and shall afford such applicant an opportunity to be heard under such rules and regulations as it may prescribe.

Such station licensee as the licensing authority may grant shall be in such general form as it may prescribe, but each license shall contain, in addition to other provisions, a statement of the following conditions to which such license shall be subject:

(A) The station license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies or wave length designated in the license beyond the term thereof nor in any other manner than authorized therein.

(B) Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of this Act.

(C) Every license issued under this Act shall be subject in terms to the right of use or control conferred by section 6 hereof.

In cases of emergency arising during the period of one year from and after the first meeting of the commission created hereby, or on applications filed during said time for temporary changes in terms of licenses when the commission is not in session and prompt action is deemed necessary, the Secretary of Commerce shall have authority to exercise the powers and duties of the commission, except as to revocation of licenses, but all such exercise of powers shall be promptly reported to the members of the commission, and any action by the Secretary authorized under this paragraph shall continue in force and have effect only until such time as the commission shall act thereon.

SEC. 12. The station license required hereby shall not be granted to, or after the granting thereof such license shall not be transferred in any manner, either voluntarily or involuntarily, to (a) any alien or the representative of any alien; (b) to any foreign government, or the representative thereof; (c) to any company, corporation, or association organized under the laws of any foreign government; (d) to any company, corporation, or association of which any officer or director is an alien, or of which more than one-fifth of the capital stock may be voted by aliens or their representatives or by a foreign government or representative thereof, or by any company, corporation, or association organized under the laws of a foreign country.

The station license required hereby, the frequencies or wave length or lengths authorized to be used by the licensee, and the rights therein granted shall not be transferred, assigned, or in any manner, either voluntarily or involuntarily, disposed of to any person, firm, company, or corporation without the consent in writing of the licensing authority.

SEC. 13. The licensing authority is hereby directed to refuse a station license and/or the permit hereinafter required for the construction of a station to any person, firm, company, or corporation, or any subsidiary thereof, which has been finally adjudged guilty by a Federal court of unlawfully monopolizing or attempting unlawfully to monopolize, after this Act takes effect, radio communication, directly or indirectly, through the control of the manufacture or sale of radio apparatus, through exclusive traffic arrangements, or by any

other means or to have been using unfair methods of competition. The granting of a license shall not estop the United States or any person aggrieved from proceeding against such person, firm, company, or corporation for violating the law against unfair methods of competition or for a violation of the law against unlawful restraints and monopolies and/or combinations, contracts, or agreements in restraint of trade, or from instituting proceedings for the dissolution of such firm, company, or corporation.

SEC. 14. Any station license shall be revocable by the commission for false statements either in the application or in the statement of fact which may be required by section 10 hereof, or because of conditions revealed by such statements of fact as may be required from time to time which would warrant the licensing authority in refusing to grant a license on an original application, or for failure to operate substantially as set forth in the license, for violation of or failure to observe any of the restrictions and conditions of this Act, or of any regulation of the licensing authority authorized by this Act or by a treaty ratified by the United States, or whenever the Interstate Commerce Commission, or any other Federal body in the exercise of authority conferred upon it by law, shall find and shall certify to the commission that any licensee bound so to do, has failed to provide reasonable facilities for the transmission of radio communications, or that any licensee has made any unjust and unreasonable charge, or has been guilty of any discrimination, either as to charge or as to service or has made or prescribed any unjust and unreasonable classification, regula-

tion, or practice with respect to the transmission of radio communications or service: *Provided,* That no such order of revocation shall take effect until thirty days' notice in writing thereof, stating the cause for the proposed revocation, has been given to the parties known by the commission to be interested in such license. Any person in interest aggrieved by said order may make written application to the commission at any time within said thirty days for a hearing upon such order, and upon the filing of such written application said order of revocation shall stand suspended until the conclusion of the hearing herein directed. Notice in writing of said hearing shall be given by the commission to all the parties known to it to be interested in such license twenty days prior to the time of said hearing. Said hearing shall be conducted under such rules and in such manner as the commission may prescribe. Upon the conclusion hereof the commission may affirm, modify, or revoke said orders of revocation.

SEC. 15. All laws of the United States relating to unlawful restraints and monopolies and to combinations, contracts, or agreements in restraint of trade are hereby declared to be applicable to the manufacture and sale of and to trade in radio apparatus and devices entering into or affecting interstate or foreign commerce and to interstate or foreign radio communications. Whenever in any suit, action, or proceeding, civil or criminal, brought under the provisions of any of said laws or in any proceedings brought to enforce or to review findings and orders of the Federal Trade Commission or other governmental agency in respect of any

matters as to which said commission or other governmental agency is by law authorized to act, any licensee shall be found guilty of the violation of the provisions of such laws or any of them, the court, in addition to the penalties imposed by said laws, may adjudge, order, and/or decree that the license of such licensee shall, as of the date the decree or judgment becomes finally effective or as of such other date as the said decree shall fix, be revoked and that all rights under such license shall thereupon cease: *Provided, however,* That such licensee shall have the same right of appeal or review as is provided by law in respect of other decrees and judgments of said court.

SEC. 16. Any applicant for a construction permit, for a station license, or for the renewal or modification of an existing station license whose application is refused by the licensing authority shall have the right to appeal from said decision to the Court of Appeals of the District of Columbia; and any licensee whose license is revoked by the commission shall have the right to appeal from such decision of revocation to said Court of Appeals of the District of Columbia or to the district court of the United States in which the apparatus licensed is operated, by filing with said court, within twenty days after the decision complained of is effective, notice in writing of said appeal and of the reasons therefor.

The licensing authority from whose decision an appeal is taken shall be notified of said appeal by service upon it, prior to the filing thereof, of a certified copy of said appeal and of the reasons therefor. Within twenty days after the filing of

said appeal the licensing authority shall file with the court the originals or certified copies of all papers and evidence presented to it upon the original application for a permit or license or in the hearing upon said order of revocation, and also a like copy of its decision thereon and a full statement in writing of the facts and the grounds for its decision as found and given by it. Within twenty days after the filing of said statement by the licensing authority either party may give notice to the court of his desire to adduce additional evidence. Said notice shall be in the form of a verified petition stating the nature and character of said additional evidence, and the court may thereupon order such evidence to be taken in such manner and upon such terms and conditions as it may deem proper.

At the earliest convenient time the court shall hear, review, and determine the appeal upon said record and evidence, and may alter or revise the decision appealed from and enter such judgment as to it may seem just. The revision by the court shall be confined to the points set forth in the reasons of appeal.

SEC. 17. After the passage of this Act no person, firm, company, or corporation now or hereafter directly or indirectly through any subsidiary, associated, or affiliated person, firm, company, corporation, or agent, or otherwise, in the business of transmitting and/or receiving for hire energy, communications, or signals by radio in accordance with the terms of the license issued under this Act, shall by purchase, lease, construction, or otherwise, directly or indirectly, acquire, own, control, or operate any cable or wire telegraph or telephone line or system

between any place in any State, Territory, or possession of the United States or in the District of Columbia, and any place in any foreign country, or shall acquire, own, or control any part of the stock or other capital share of any interest in the physical property and/or other assets of any such cable, wire, telegraph, or telephone line or system, if in either case the purpose is and/or the effect thereof may be to substantially lessen competition or to restrain commerce between any place in any State, Territory, or possession of the United States or in the District of Columbia and any place in any foreign country, or unlawfully to create monopoly in any line of commerce; nor shall any person, firm, company, or corporation now or hereafter engaged directly or indirectly through any subsidiary, associated, or affiliated person, company, corporation, or agent, or otherwise, in the business of transmitting and/or receiving for hire messages by any cable, wire, telegraph, or telephone line or system (a) between any place in any State, Territory, or possession of the United States or in the District of Columbia, and any place in any other State, Territory, or possession of the United States; or (b) between any place in any State, Territory, or possession of the United States or the District of Columbia, and any place in any foreign country, by purchase, lease, construction, or otherwise, directly or indirectly acquire, own, control, or operate any station or the apparatus therein, or any system for transmitting and/or receiving radio communications or signals between any place in any State, Territory, or possession of the United States or in the District of

Columbia, and any place in any foreign country, or shall acquire, own, or control any part of the stock or other capital share or any interest in the physical property and/or other assets of any such radio station, apparatus, or system, if in either case the purpose is and/or the effect thereof may be to substantially lessen competition or to restrain commerce between any place in any State, Territory, or possession of the United States or in the District of Columbia, and any place in any foreign country, or unlawfully to create monopoly in any line of commerce.

SEC. 18. If any licensee shall permit any person who is a legally qualified candidate for any public office to use a broadcasting station, he shall afford equal opportunities to all other such candidates for that office in the use of such broadcasting station, and the licensing authority shall make rules and regulations to carry this provision into effect: *Provided,* That such licensee shall have no power of censorship over the material broadcast under the provisions of this paragraph. No obligation is hereby imposed upon any licensee to allow the use of its station by any such candidate.

SEC. 19. All matter broadcast by any radio station for which service, money, or any other valuable consideration is directly or indirectly paid, or promised to or charged or accepted by, the station so broadcasting, from any person, firm, company, or corporation, shall, at the time the same is so broadcast, be announced as paid for or furnished, as the case may be, by such person, firm, company, or corporation.

SEC. 20. The actual operation of all transmitting apparatus in any radio station for which a station

license is required by this Act shall be carried on only by a person holding an operator's license issued hereunder. No person shall operate any such apparatus in such station except under and in accordance with an operator's license issued to him by the Secretary of Commerce.

SEC. 21. No license shall be issued under the authority of this Act for the operation of any station the construction of which is begun or is continued after this Act takes effect, unless a permit for its construction has been granted by the licensing authority upon written application therefor. The licensing authority may grant such permit if public convenience, interest, or necessity will be served by the construction of the station. This application shall set forth such facts as the licensing authority by regulation may prescribe as to the citizenship, character, and the financial, technical, and other ability of the applicant to construct and operate the station, the ownership and location of the proposed station and of the station or stations with which it is proposed to communicate, the frequencies and wave length or wave lengths desired to be used, the hours of the day or other periods of time during which it is proposed to operate the station, the purpose for which the station is to be used, the type of transmitting apparatus to be used, the power to be used, the date upon whcih the station is expected to be completed and in operation, and such other information as the licensing authority may require. Such application shall be signed by the applicant under oath or affirmation.

Such permit for construction shall show specifically the earliest and latest dates between which the actual operation of such station is expected to

begin, and shall provide that said permit will be automatically forfeited if the station is not ready for operation within the time specified or within such further time as the licensing authority may allow, unless prevented by causes not under the control of the grantee. The rights under any such permit shall not be assigned or otherwise transferred to any person, firm, company, or corporation without the approval of the licensing authority. A permit for construction shall not be required for Government stations, amateur stations, or stations upon mobile vessels, railroad rolling stock, or aircraft. Upon the completion of any station for the construction or continued construction for which a permit has been granted, and upon it being made to appear to the licensing authority that all the terms, conditions, and obligations set forth in the application and permit have been fully met, and that no cause or circumstance arising or first coming to the knowledge of the licensing authority since the granting of the permit would, in the judgment of the licensing authority, make the operation of such station against the public interest, the licensing authority shall issue a license to the lawful holder of said permit for the operation of said station. Said license shall conform generally to the terms of said permit.

SEC. 22. The licensing authority is authorized to designate from time to time radio stations the communications or signals of which, in its opinion, are liable to interfere with the transmission or reception of distress signals of ships. Such stations are required to keep a licensed radio operator listening in on the wave lengths designated for signals of

distress and radio communications relating thereto during the entire period the transmitter of such station is in operation.

SEC. 23. Every radio station on shipboard shall be equipped to transmit radio communications or signals of distress on the frequency or wave length specified by the licensing authority, with apparatus capable of transmitting and receiving messages over a distance of at least one hundred miles by day or night. When sending radio communications or signals of distress and radio communications relating thereto the transmitting set may be adjusted in such a manner as to produce a maximum of radiation irrespective of the amount of interference which may thus be caused.

All radio stations, including Government stations and stations on board foreign vessels when within the territorial waters of the United States, shall give absolute priority to radio communications or signals relating to ships in distress; shall cease all sending on frequencies or wave lengths which will interfere with hearing a radio communication or signal of distress, and, except when engaged in answering or aiding the ship in distress, shall refrain from sending any radio communications or signals until there is assurance that no interference will be caused with the radio communications or signals relating thereto, and shall assist the vessel in distress, so far as possible, by complying with its instructions.

SEC. 24. Every shore station open to general public service between the coast and vessels at sea shall be bound to exchange radio communications or signals with any ship station without distinction

as to radio systems or instruments adopted by such stations, respectively, and each station on shipboard shall be bound to exchange radio communications or signals with any other station on shipboard without distinction as to radio systems or instruments adopted by each station.

SEC. 25. At all places where Government and private or commercial radio stations on land operate in such close proximity that interference with the work of Government stations can not be avoided when they are operating simultaneously such private or commercial stations as do interfere with the transmission or reception of radio communications or signals by the Government stations concerned shall not use their transmitters during the first fifteen minutes of each hour, local standard time.

The Government stations for which the abovementioned division of time is established shall transmit radio communications or signals only during the first fifteen minutes of each hour, local standard time, except in case of signals or radio communications relating to vessels in distress and vessel requests for information as to course, location, or compass direction.

SEC. 26. In all circumstances, except in case of radio communications or signals relating to vessels in distress, all radio stations, including those owned and operated by the United States, shall use the minimum amount of power necessary to carry out the communication desired.

SEC. 27. No person receiving or assisting in receiving any radio communication shall divulge or publish the contents, substance, purport, effect, or meaning thereof except through authorized chan-

nels of transmission or reception to any person other than the addressee, his agent, or attorney, or to a telephone, telegraph, cable, or radio station employed or authorized to forward such radio communication to its destination, or to proper accounting or distributing officers of the various communicating centers over which the radio communication may be passed, or to the master of a ship under whom he is serving, or in response to a subpœna issued by a court of competent jurisdiction, or on demand of other lawful authority; and no person not being authorized by the sender shall intercept any message and divulge or publish the contents, substance, purport, effect, or meaning of such intercepted message to any person; and no person not being entitled thereto shall receive or assist in receiving any radio communication and use the same or any information therein contained for his own benefit or for the benefit of another not entitled thereto; and no person having received such intercepted radio communication or having become acquainted with the contents, substance, purport, effect, or meaning of the same or any part thereof, knowing that such information was so obtained shall divulge or publish the contents, substance, purport, effect, or meaning of the same or any part thereof, or use the same or any information therein contained for his own benefit or for the benefit of another not entitled thereto: *Provided,* That this section shall not apply to the receiving, divulging, publishing, or utilizing the contents of any radio communication broadcasted or transmitted by amateurs or others for the use of the general public or relating to ships in distress.

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SEC. 28. No person, firm, company, or corporation within the jurisdiction of the United States shall knowingly utter or transmit, or cause to be uttered or transmitted, any false or fraudulent signal of distress, or communication relating thereto, nor shall any broadcasting station rebroadcast the program or any part thereof of another broadcasting station without the express authority of the originating station.

SEC. 29. Nothing in this Act shall be understood or construed to give the licensing authority the power of censorship over the radio communications or signals transmitted by any radio station, and no regulation or condition shall be promulgated or fixed by the licensing authority which shall interfere with the right of free speech by means of radio communications. No person within the jurisdiction of the United States shall utter any obscene, indecent, or profane language by means of radio communication.

SEC. 30. The Secretary of the Navy is hereby authorized unless restrained by international agreement, under the terms and conditions and at rates prescribed by him, which rates shall be just and reasonable, and which, upon complaint, shall be subject to review and revision by the Interstate Commerce Commission, to use all radio stations and apparatus, wherever located, owned by the United States and under the control of the Navy Department (a) for the reception and transmission of press messages offered by any newspaper published in the United States, its Territories or possessions, or published by citizens of the United States in foreign countries, or by any press association of the United States, and (b) for the recep-

tion and transmission of private commercial messages between ships, between ship and shore, between localities in Alaska and between Alaska and the continental United States: *Provided,* That the rates fixed for the reception and transmission of all such messages, other than press messages between the Pacific coast of the United States, Hawaii, Alaska, the Philippine Islands, and the Orient, and between the United States and the Virgin Islands, shall not be less than the rates charged by privately owned and operated stations for like messages and service: *Provided further,* That the right to use such stations for any of the purposes named in this section shall terminate and cease as between any countries or localities or between any locality and privately operated ships whenever privately owned and operated stations are capable of meeting the normal communication requirements between such countries or localities or between any locality and privately operated ships, and the licensing authority shall have notified the Secretary of the Navy thereof.

SEC. 31. The expression "radio communication" or "radio communications" wherever used in this Act means any intelligence, message, signal, power, pictures, or communication of any nature transferred by electrical energy from one point to another without the aid of any wire connecting the points from and at which the electrical energy is sent or received and any system by means of which such transfer of energy is effected.

SEC. 32. Any person, firm, company, or corporation failing or refusing to observe or violating any rule, regulation, restriction, or condition made or

imposed by the licensing authority under the authority of this Act or of any international radio convention or treaty ratified or adhered to by the United States, in addition to any other penalties provided by law, upon conviction thereof by a court of competent jurisdiction, shall be punished by a fine of not more than $500 for each and every offense.

SEC. 33. Any person, firm, company, or corporation who shall violate any provision of this Act, or shall knowingly make any false oath or affirmation in any affidavit required or authorized by this Act, or shall knowingly swear falsely to a material matter in any hearing authorized by this Act, upon conviction thereof in any court of competent jurisdiction shall be punished by a fine of not more than $5,000 or by imprisonment for a term of not more than five years or both for each and every such offense.

SEC. 34. The trial of any offense under this Act shall be in the district in which it is committed; or if the offense is committed upon the high seas, or out of the jurisdiction of any particular State or district, the trial shall be in the district where the offender may be found or into which he shall be first brought.

SEC. 35. This Act shall not apply to the Philippine Islands or to the Canal Zone. In international radio matters the Philippine Islands and the Canal Zone shall be represented by the Secretary of State.

SEC. 36. The licensing authority is authorized to designate any officer or employee of any other department of the Government on duty in any Territory or possession of the United States other than

the Philippine Islands and the Canal Zone, to render therein such services in connection with the administration of the radio laws of the United States as such authority may prescribe: *Provided*, That such designation shall be approved by the head of the department in which such person is employed.

SEC. 37. The unexpended balance of the moneys appropriated in the item for "wireless communication laws," under the caption "Bureau of Navigation" in Title III of the Act entitled "An Act making appropriations for the Departments of State and Justice and for the judiciary, and for the Departments of Commerce and Labor, for the fiscal year ending June 30, 1927, and for other purposes," approved April 29, 1926, and the appropriation for the same purposes for the fiscal year ending June 30, 1928, shall be available both for expenditures incurred in the administration of this Act and for expenditures for the purposes specified in such items. There is hereby authorized to be appropriated for each fiscal year such sums as may be necessary for the administration of this Act and for the purposes specified in such item.

SEC. 38. If any provision of this Act or the application thereof to any person, firm, company, or corporation, or to any circumstances, is held invalid, the remainder of the Act and the application of such provision to other persons, firms, companies, or corporations, or to other circumstances, shall not be affected thereby.

SEC. 39. The Act entitled "An Act to regulate radio communication," approved August 13, 1912, the joint resolution to authorize the operation of Government-owned radio stations for the general

public, and for other purposes, approved June 5, 1920, as amended, and the joint resolution entitled "Joint resolution limiting the time for which licenses for radio transmission may be granted, and for other purposes," approved December 8, 1926, are hereby repealed.

Such repeal, however, shall not affect any act done or any right accrued or any suit or proceeding had or commenced in any civil cause prior to said repeal, but all liabilities under said laws shall continue and may be enforced in the same manner as if committed; and all penalties, forfeitures, or liabilities incurred prior to taking effect hereof, under any law embraced in, changed, modified, or repealed by this Act, may be prosecuted and punished in the same manner and with the same effect as if this Act had not been passed.

Nothing in this section shall be construed as authorizing any person now using or operating any apparatus for the transmission of radio energy or radio communications or signals to continue such use except under and in accordance with this Act and with a license granted in accordance with the authority hereinbefore conferred.

SEC. 40. This Act shall take effect and be in force upon its passage and approval, except that for and during a period of sixty days after such approval no holder of a license or an extension thereof issued by the Secretary of Commerce under said Act of August 13, 1912, shall be subject to the penalties provided herein for operating a station without the license herein required.

SEC. 41. This Act may be referred to and cited as the Radio Act of 1927.

Approved, February 23, 1927.

APPENDIX B

[PUBLIC—No. 195—70TH CONGRESS]

[S. 2317]

An Act Continuing for one year the powers and authority of the Federal Radio Commission under the Radio Act of 1927, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all the powers and authority vested in the Federal Radio Commission by the Radio Act of 1927, approved February 23, 1927, shall continue to be vested in and exercised by the commission until March 16, 1929; and wherever any reference is made in such Act to the period of one year after the first meeting of the commission, such reference shall be held to mean the period of two years after the first meeting of the commission.

SEC. 2. The period during which the members of the commission shall receive compensation at the rate of $10,000 per annum is hereby extended until March 16, 1929.

SEC. 3. Prior to January 1, 1930, the licensing authority shall grant no license or renewal of license under the Radio Act of 1927 for a broadcasting station for a period to exceed three months and no license or renewal of license for any other class of station for a period to exceed one year.

SEC. 4. The term of office of each member of the commission shall expire on February 23, 1929, and thereafter commissioners shall be appointed for terms of two, three, four, five, and six years, respectively, as provided in the Radio Act of 1927.

SEC. 5. The second paragraph of section 9 of the Radio Act of 1927 is amended to read as follows:

"It is hereby declared that the people of all the zones established by section 2 of this Act are entitled to equality of radio broadcasting service, both of transmission and of reception, and in order to provide said equality the licensing authority shall as nearly as possible make and maintain an equal allocation of broadcasting licenses, of bands of frequency or wave lengths, of periods of time for operation, and of station power, to each of said zones when and in so far as there are applications therefor; and shall make a fair and equitable allocation of licenses, wave lengths, time for operation, and station power to each of the States, the District of Columbia, the Territories and possessions of the United States within each zone, according to population. The licensing authority shall carry into effect the equality of broadcasting service hereinbefore directed, whenever necessary or proper, by granting or refusing licenses or renewals of licenses, by changing periods of time for operation, and by increasing or decreasing station power, when applications are made for licenses or renewals of licenses: *Provided,* That if and when there is a lack of applications from any zone for the proportionate share of licenses, wave lengths, time of operation, or station power to which such zone is entitled, the licensing authority may issue licenses for the balance of the proportion not applied for from any zone, to applicants from other zones for a temporary period of ninety days each, and shall specifically designate that said apportionment is only for said temporary period. Allocations shall

be charged to the State, District, Territory, or possession wherein the studio of the station is located and not where the transmitter is located."

Approved, March 28, 1928.

APPENDIX C

[PUBLIC—No. 1029—70TH CONGRESS]

[H. R. 15430]

An Act Continuing the powers and authority of the Federal Radio Commission under the Radio Act of 1927, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all the powers and authority vested in the Federal Radio Commission by the Radio Act of 1927, approved February 23, 1927, shall continue to be vested in and exercised by the commission until December 31, 1929; and wherever any reference is made in such Act to the period of one year after the first meeting of the commission, such reference shall be held to mean the period until December 31, 1929.

SEC. 2. The period during which the members of the commission shall receive compensation at the rate of $10,000 per annum is hereby extended until March 16, 1930.

SEC. 3. Prior to January 1, 1931, the licensing authority shall grant no license or renewal of license under the Radio Act of 1927 for a broadcasting station for a period to exceed three months and no license or renewal of license for any other class of station for a period to exceed one year.

SEC. 4. The term of office of each member of the commission shall expire on February 23, 1930, and thereafter commissioners shall be appointed for terms of two, three, four, five, and six years, respectively, as provided in the Radio Act of 1927.

SEC. 5. The commission is authorized to appoint a general counsel and pay him a salary of $10,000 per annum and not to exceed three assistants to such general counsel, at salaries of $7,500 each per annum. It may appoint such other legal assistants as it may from time to time find necessary for the proper performance of its duties and as from time to time may be appropriated for by Congress.

Approved, March 4, 1929.

APPENDIX D

SCIENTIFIC FACTS AND PRINCIPLES ON WHICH GENERAL ORDER 40 IS BASED

(See Transcript of Record, pp. 343-363)

The broadcast band.—A certain amount of "space" in the ether has, both by International treaty and by regulations of the Commission, been set aside for practically exclusive use by broadcasting stations. It is known as the "broadcast band." Its present dimensions are sanctified by long usage and are now fixed by economic necessity. There is "space" in the ether above and below the broadcast band but such space is filled to the point of congestion with the many other kinds of radio communication, including that carried on by ship stations, aircraft stations, amateurs, experimental stations, transoceanic wireless stations, experimental television stations and many others. Because of the

needs of these other services and for reasons having to do with the construction of receiving sets, it is not to be expected that the broadcast band will be extended to cover a greater space, and respondent does not contend that it should be. To use scientific terms of measurement hereinafter explained, the broadcast band extends from 550 kc. (kilocycles) to 1,500 kc.

The bands on either side of the broadcast band are known as (a) the low-frequency (or long-wave) band extending from 10 kc. to 550 kc. and (b) the high-frequency (or short-wave) band extending from 1,500 to 65,000 kc.

Channels.—It is commonly stated that there are 96 channels in the broadcast band. Inaccurately, and only for convenience, these channels may be pictured as 96 parallel "highways" along which separate radio communications may travel without colliding or interfering with each other. That there are only 96 such "highways" and that the number can not be increased without widening the broadcast band is generally agreed and will not be controverted by respondent. Six of the 96 channels have, by "gentleman's agreement" been reserved exclusively for use by Canadian stations. Of the 90 remaining 11 may be used simultaneously by stations in both Canada and the United States, with severe limitations on the amount of power used by any such station. To designate particular channels and distinguish them one from another, it is necessary again to make use of the scientific terms of measurement used by radio engineers, and which are hereinafter explained. The channels are separated from each other by 10 kc. The lowest channel

in the broadcast band is 550 kc., the next lowest is 560 kc., the next lowest is 570 kc., and so on in units of ten up to and including 1,500 kc., a total of 96. The channel in question in the present case is 790 kc.

Frequency and wave length.—To make clear the meaning of the term "frequency" it will be of assistance to state briefly what occurs when a broadcasting station transmits its program.

The ether.—The ether is an hypothetical medium. There is no satisfactory definition of it. It is not even known to exist and represents nothing more at present than a conception which the human mind finds necessary in order to explain certain electrical phenomena. If it does exist it is apparently existent everywhere, in a vacuum as well as in space occupied by matter, whether gaseous, liquid, or solid. It is continuous in nature and not capable of being bounded, divided into parts, isolated, segregated by geographical boundary lines, or appropriated or reduced to possession by mankind.

Electromagnetic waves and their designation by frequency or wave length.—A radio-communication system may be likened to a telephone system in discussing its component parts. Broadcasting, of course, involves only one-way communication. Wireless telegraphy and wireless telephony involve two-way communication, just as do wire telegraphy and wire telephony.

The three component parts are the sending apparatus, the medium through which the message is sent, and the receiving apparatus. In radio communication the ether is the medium corresponding to the wire and it is through or by means of the

ether that messages radiated from the transmitter are borne in the form of electrical impulses to the receiving set.

The electrical impulses are launched into the ether from wires stretched between the high towers which are a familiar sight above broadcasting stations (i. e., the sending antenna). By means of a very complicated apparatus an alternating electric current is made to run back and forth on these wires. The electric-light current used for ordinary lighting purposes in the home is one which performs 60 complete alternations a second; a complete alternation (back and forth) is termed a "cycle" and the current is therefore described as a 60-cycle current. The current which causes radio waves suitable for practical use alternates at rates from as low as 10,000 cycles a second to as high as 65,000,000 cycles a second. For convenience the term "kilocycles" is used, a kilocycle being 1,000 cycles, just as a kilometer is 1,000 meters. The range of radio waves is, therefore, for practical purposes considered as extending from 10 kc. to 65,000 kc., although as a matter of fact waves above 23,000 kc. are still in the laboratory or experimental stage of development for practical use. The rate of alternation of a wave is called its "frequency," usually expressed in terms of kilocycles.

We know that as a result of producing these tremendously rapidly alternating currents in the sending antenna the same kind of alternating currents (although much weaker in term of electrical measurement units) will be created in a receiving antenna at great distances. This is done in the incredibly short period corresponding to a speed of

approximately 186,000 miles, or 300,000 kilometers, a second, the same speed with which light waves travel. In fact, radio waves are believed to be of the same nature as light waves, the latter having simply much higher frequencies.

The human mind refuses to believe that when a certain kind of disturbance occurs at Point A and a corresponding kind of disturbance always follows at Point B, the two are not related by a chain of cause and effect. To make this chain intelligible the human mind finds it necessary to picture the phenomenon in terms of matter and of motion. Because of external manifestations the motion is thought of as "waves," usually called electromagnetic, or Hertzian, waves. The matter in which the waves progress from one point to another in their rapid flight is the hypothetical medium called the "ether."

Since the disturbances radiating from a sending antenna at any given rate of alternation or frequency—e. g. 1,000 kc.—travel to a point 300,000 kilometers distant in one second, the mind imagines a continuous series of identical waves having crests each 300 meters apart. This is the "wave length" of any particular radio wave. The formula is very simple:

$$300{,}000 = \text{wave length (in meters)} \times \text{frequency (in kilocycles)}$$

Wave-lengths, however, are as clumsy a way of designating radio waves as rods, acres, pounds, pecks, and similar units of measurement, as compared to the decimal system employed by scientists.

Modulation.—If nothing but a continuous series of radio waves were sent out by a station nothing would be heard from the receiving set. The rapid alternations would be picked up by the receiving antenna in the form of an alternating electric-current having the same frequency as is produced in the sending antenna, but it would not be translated into sound or music. It is called the "carrier wave."

A program is impressed on the carrier wave by a process known as "modulation." The carrier wave is made to vary in exact correspondence to the sound vibrations which are communicated into the microphone in the studio of the broadcasting station. The rate of sound vibrations which can be detected by the human ear varies from about 16 cycles (sound waves) a second to about 15,000 cycles a second. The range of the piano keyboard is from about 27 cycles a second to about 4,100 cycles a second. For practical purposes it is assumed in broadcasting that sounds as high as 5,000 cycles a second should be provided for.

The result of impressing a sound having a given rate of vibration—e. g., 1,000 cycles a second—on a carrier wave is to create three waves. Take, for example, the channel which is in question in this case, i. e., 790 kc. If the 1,000-cycle sound is impressed on it and so long as that sound continues, *three* radio waves are transmitted into the ether—the carrier wave of 790 kc., one wave of 791 kc. (790 kc.+1,000 cycles), and one wave of 789 kc. (790 kc.−1,000 cycles). The two latter waves are referred to as the "side bands." It will readily be seen that for the transmission of 5,000-cycle notes a band from 785 kc. to 795 kc. is necessary, and that

for the ideal transmission and reproduction of all sounds detectable by the human ear a band from 775 kc. to 805 kc. would be necessary. Of course, the average program—e. g., an orchestra—covers a wide and complex range of sounds (including the harmonics of notes which are the chief means of distinguisning one musical instrument from another), so that the side bands are in reality made up of a very complicated band of waves over the band of 10 kc. The reason for the channels being at least 10 kc. apart in the broadcast band is thus apparent.

The foregoing has reference only to *sound* modulation. Television, which is still in an experimental stage, may require bands 100 kc. wide or even more. If the broadcast band were used for television there would be room for only 9½ channels between 550 kc. and 1,500 kc., where there are now 96 channels for broadcasting.

Interference.—Manifestly, in view of the foregoing, the term "channel" has no arbitrary meaning. There are no actual highways laid out in the ether. The ether being presumably a continuous medium, all waves radiated into it are causing simultaneous disturbances in it. To permit the transmission and reception of more than one communication at any one time in the ether, it is necessary that the waves used differ sufficiently in frequency so that, among other things, a receiving set can select between them. By certain "tuning devices" (controlled by the dials on a receiving set) one wave can be detected and others excluded. This can not be done if two waves picked up by the receiving antenna are so close to being identical in frequency that the tuning device can not select be-

tween them. Furthermore, the receiving set must not be so selective as to cut off any portion of the side bands which carry the program. The more selective it is made, the more it will cut off the higher notes and the more it will be lacking in what is known as "fidelity" of reproduction. A graphic illustration of three types of receiver is contained in the record (p. 361)—(1) the ideal receiver (which does not exist), which will receive a band of 10 kc. equally well and exclude all others; (2) an ultra-selective receiver which will exclude other waves but will also cut off high notes within the band of 10 kc., and (3) a type which, while more broadly tuned than the better sets now in use, illustrates the actual action of most receivers. It will be seen from the diagram that the latter type will receive communications coming in on adjacent or near-by channels, although not as strongly as communications coming in on the channel to which it is tuned. This is the cause of most "cross talk"—i. e., the reception of two programs simultaneously.

There are several types of interference which must be avoided if we are to have good reception of programs from broadcasting stations—(1) heterodyne, (2) cross talk, (3) blanketing, and (4) harmonic.

Heterodyne interference.—Heterodyne interference manifests itself in the form of a steady, or nearly steady, note varying from a low growl to a high whistle. It results from reception by the receiving set of two carrier waves having frequencies which are too close together. Two such waves will produce a note which has a pitch corresponding exactly to the separation between them in cycles.

If they are 1 kc. (1,000 cycles) apart, they produce a 1,000-cycle note.

Heterodyne interference generally results from interaction, in the receiver, of the carrier waves from two broadcasting stations assigned to, and supposed to be operating on, the same channel. In the present state of the art it is impossible for existing broadcasting stations to adhere closely enough to the same exact frequency to avoid producing a heterodyne unless they are of low power and are separated by great geographical distances. WGY, operating on 790 kc. with 50,000 watts at Schenectady, N. Y., and KGO, operating on the same channel with 10,000 watts at Oakland, Cal., will necessarily cause a heterodyne whistle on that channel over the entire country except a small area around each station. This is true only while the two stations are linked by darkness—i. e., from sunset at Oakland, Cal., to sunrise at Schenectady, N. Y. During the daytime radio waves travel to greatly reduced distances, being absorbed more readily by sunlight. If two such stations operate simultaneously after they are linked by darkness a great portion of the country is deprived of satisfactory, interference-free reception on that channel, and the channel loses all the advantages presented by a cleared channel. In this case 790 kc. is one of the 8 cleared channels set aside for the benefit of listeners in the Fifth Zone, and they are the chief losers if it ceases to be clear, since the First Zone has its 8 cleared channels. The people in the immediate vicinity of Oakland will continue to get satisfactory reception from KGO, but the rural outlying regions of California, Nevada, and elsewhere will get programs ruined by a heterodyne whistle.

The necessity for, and virtue of, cleared channels is recognized by respondent.

In parts of the country, on evenings when reception is good, the programs of both stations will be received, as well as the whistle, with the added annoyance of crosstalk.

Service and nuisance areas of broadcasting stations.—Every broadcasting station has what is properly called a "service area" and a "nuisance area." The carrier wave travels far beyond the area in which the station can give good service to listeners, into areas where it is still sufficiently strong to cause very objectionable heterodyne interference with the broadcasting of other stations. Conditions vary from locality to locality, from season to season, from day to night, and even from hour to hour, so that the service area and the nuisance area of a particular station can be defined only with approximate accuracy. Furthermore, standards vary as to what constitutes good service and what constitutes objectionable interference. The following, however, represents a satisfactory definition of the different types of areas with approximate accuracy under average conditions during evening hours:

Power of station	Radius of area of very good service (city dweller)	Radius of area of good service (suburban dweller)	Radius of area of fair service (rural listener)	Radius of nuisance area
	Miles	*Miles*	*Miles*	
50 watts	2	10	100	300 miles.
100 watts	3	15	150	450 miles.
500 watts	6	30	300	900 miles.
1,000 watts	9	45	450	1,350 miles.
5,000 watts	20	100	1,000	3,000 miles.
50,000 watts	60	300	3,000	Beyond limits of country.

At times when conditions are better than the average for radio reception the areas above indicated will be greatly extended under each heading. As is apparent from the foregoing, any station using power of 5,000 watts makes it impossible for any other station to operate satisfactorily on the same channel anywhere in the United States. The result of such simultaneous operation is greatly to restrict the areas within which satisfactory reception can be had from any other stations, and listeners in a large number of states are cut off from receiving the communications of broadcasting stations located in states other than the one in which they live.

Interference by cross talk.—As has already been explained, cross talk (unless proceeding from two stations on the *same* channel) is usually due to the limitations of receiving sets. The interference is due to the fact that receivers are not so constructed as to receive the programs from one station on a particular channel and exclude the programs of a station broadcasting on a closely adjacent channel if the signal coming from the latter station is substantially in proportion to that of the former.

The danger of cross talk necessitates a very careful geographical location of stations. Stations of substantial power should not be located on adjacent channels if they are located in the vicinity of each other. A disproportion of power must be avoided in the case of stations on channels that are adjacent to each other. For example, where it might be all right (although not ideal) for a 50,000-watt station in New York to be on a channel adjacent to that accupied by 50,000 watts in Chicago, if

one of these stations were a 500-watt station the results might be cross talk in parts of the region properly served by the 500-watt station.

The foregoing illustrates the complicated considerations that must enter into an allocation of broadcasting stations. When, for example, the 40 cleared channels were assigned among the five Zones, the Commission was very careful to see that the channels assigned to any one Zone were spaced as widely apart from each other in frequency as possible, and that, so far as possible, channels assigned to adjacent Zones were similarly spaced. (See subparagraph A, General Order 40, R. 101–102.) 790 kc. was not assigned to the Fifth Zone without careful thought as to what Zones would enjoy the channels on either side of it.

Interference by blanketing.—"Blanketing" is, generally speaking, the result of the same phenomenon as "cross talk." Because of limitations on receiving sets, a station on an adjacent channel which the listener does *not* want to hear may be received with so strong an electrical strength as to "drown out" the station on the channel to which the listener has tuned his receiving set.

Stations located in thickly inhabited communities may not, as a rule, enjoy high power. In the areas of several miles immediately surrounding the station it gives a very strong signal, so strong as to come in over a much wider portion of the dial on a receiving set than is consistent with receiving other stations. Even a 500-watt station creates a tremendously strong signal in its vicinity. An example of this is given by the diagram set forth in the record (p. 363), showing the comparative signals given by

a 500-watt station located in the heart of Chicago as compared with that given by a 25,000-watt station 30 miles away. At a distance of 3 miles from the 500-watt station its signal is shown to be 2½ times as strong as that of the 25,000-watt station, and within a few blocks of the 500-watt station, the latter's signal is 300 times as strong. Consequently, when it comes to duplicating high-powered stations on the same channel, a difficult dilemma is created. If the high-powered station is permitted to remain in the center of the city, it may serve that city reasonably well, even though other stations are on the same channel, and although it fails to each rural areas because of heterodyne interference. On the other hand, it will cause such blanketing as to make it impossible for people in the vicinity of the station to get other stations. If the station is required to move a sufficient distance away from the city, then the very region which it most desires to serve, namely, the city itself, will be invaded by heterodyne interference. Consequently, it is in a general way feasible to provide for the simultaneous operation of stations on the same channel only when each station is of comparatively low power. This is the basis for the so-called regional and local channels. In theory, and generally, in practice, these channels are occupied by stations having transmitters located in the cities they desire to serve, and power restrictions have been placed upon them by the Commission, as has already been explained. While such stations do not have a wide range of service in terms of *area*, they do have such a range in terms of *population*, because of the concentration of population in the vicinity of the transmitter.

Interference by harmonics.—Because a station using one frequency will to some extent cause interference with stations using frequencies which are multiples of the first frequency, the Commission has had again to exercise extreme care in determining the geographical location of stations. A station should not be allowed to operate on 1,240 kc., for example, if another serving the same area is operating on 620 kc.

Synchronization.—It is the hope of radio engineers that the time will come, perhaps at an early date, when heterodyne interference may be avoided by so operating stations with a common control as to enable them to use exactly the same frequency. This will eliminate heterodyne but not cross-talk interference; if the two stations are sending out exactly the same program the element of cross talk may not be important. On the other hand, it may prove that other evils will result from synchronization now impossible to foresee—e. g., the rapid fading out, blotting out, or "fluttering" resulting from the two series of waves being "out of phase." It can not be said as yet that synchronization (at least, over any but very short distances) has been demonstrated as either certain of success or economically practicable. If it succeeds, it will be possible for WGY and KGO to operate simultaneously on the same channel, at least so long as they are radiating identical programs.

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CHARLES ELMORE CROPLEY
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IN THE

Supreme Court of the United States,

~~OCTOBER TERM 1929—No. 84~~

OCTOBER TERM 1929—No. 122

FEDERAL RADIO COMMISSION,

Petitioner,

against

GENERAL ELECTRIC COMPANY AND PEOPLE OF THE STATE OF NEW YORK.

BRIEF IN BEHALF OF GENERAL ELECTRIC COMPANY IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI.

FRANK J. HOGAN,
WILLIAM H. DONOVAN,
JOHN W. GUIDER,
Counsel for General Electric Company.

CHARLES E. HUGHES,
STEPHEN H. PHILBIN,
ALLEN S. HUBBARD,
JOHN FLETCHER CASKEY,
Of Counsel.

July 10, 1929.

The Evening Post Job Printing Office, Inc., 154 Fulton St., New York, N. Y.

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IN THE

Supreme Court of the United States.

OCTOBER TERM 1928—No. 944

OCTOBER TERM 1929—No. 122

FEDERAL RADIO COMMISSION,
Petitioner,

AGAINST

GENERAL ELECTRIC COMPANY and PEOPLE OF THE STATE OF NEW YORK.

BRIEF IN BEHALF OF GENERAL ELECTRIC COMPANY IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI.

Petitioner seeks to review an administrative decision of the Court of Appeals of the District of Columbia, reversing a decision of the Federal Radio Commission refusing the renewal of a station license to General Electric Company for the operation of its station at Schenectady, New York, known by its call letters WGY. The facts upon which the Court of Appeals based its conclusion that station WGY was entitled to a renewal of its license clearly required that conclusion.

On January 14, 1928, General Electric Company applied to the Radio Commission for a renewal of the then existing license to station WGY granted by the Radio Commission on November 1, 1927 (R. 88, 89). This license was for exclusive full time operation on a frequency of 790 kilocycles

with power of 50 kilowatts (R. 95). Station WGY had been operating on a frequency of 790 kilocycles since May 21, 1923, as appears from its application (R. 94). The application showed the character of the station, that it was being operated during the evening hours substantially every day from 6 o'clock to 11 or 12 P. M. or 1 A. M. and on Sunday to 10:45 P. M. (R. 91), the average time being until after 11:30 P. M. It showed that the population within one hundred miles of Schenectady exceeded 1,400,000, that this community, including Albany, Troy, Amsterdam, Utica and many villages and rural sections, depended almost entirely on WGY for radio programs and that other stations were not well received in that vicinity (R. 92), that WGY had the resources of the research laboratories of General Electric Company, and that it was used as a development station for testing new inventions and ideas. The application also listed a number of major improvements that had been developed by General Electric Company in connection with WGY (R. 92). None of these facts was disputed by the Commission. It is entirely clear that WGY is one of the great stations of the country, that it is a pioneer in the development of the radio art and that it furnishes a service to important communities, which cannot be rendered by other stations.

The Radio Commission acted upon this application on October 12, 1928, ordering that a license effective November 11, 1928 be issued to WGY for operations on a frequency of 790 kilocycles, but denying it the right to operate full time as it had been operating (R. 130, 138). Construed in accordance with the general regulations of the Commission, the new license required station WGY to close down after sunset on the Pacific coast (General Orders Nos. 41, 42 and 48; R. 109, 110, 111), or at average times varying from 7:56 P. M. in the month of December to 10:32 P. M. in the month of June (R. 130). This serious curtailment of the right of WGY to continue its operations was tantamount to a prohibition against its effective continuance.

General Electric Company appealed from this decision to the Court of Appeals of the District of Columbia. The

Commission made its return. Neither the Commission nor General Electric Company petitioned the Court of Appeals for leave to submit additional evidence. The Court of Appeals considered the facts contained in the record presented to it and held that the restrictions imposed by the Radio Commission were unreasonable and not in the public interest. It directed the Commission to issue a renewal of WGY's former license which had been refused by the Commission (R. 392).

The Radio Commission seeks to review this decision upon various highly technical procedural grounds.

We submit:

FIRST: The decision of the Court of Appeals, having been rendered as an administrative tribunal under the Radio Act, is not subject to review by this Court.

SECOND: The questions sought to be reviewed are unimportant questions of procedure which were correctly determined by the Court of Appeals.

THIRD: The decision of the Court of Appeals reversing the order of the Commission was correct upon the facts.

FIRST: The decision of the Court of Appeals, having been rendered as an administrative tribunal under the Radio Act is not subject to review by this Court.

Section 16 of the Radio Act (Act of Feb. 23, 1927, c. 169, 44 Stat. 1162 [printed in the margin]) provides that upon an appeal from a decision of the Commission refusing the renewal of a license, the Court of Appeals may take additional evidence and authorizes the Court to "alter or revise the decision appealed from and enter such judgment as to it may seem just". There can be no doubt that this function is legislative or administrative in character, not judicial, and that the decision rendered is not reviewable by this Court. *Keller* v. *Potomac Electric Power Co.*, 261 U. S. 428; *Postum Cereal Co.* v. *California Fig Nut Co.*, 272 U. S. 693.

Upon the authority of *Keller* v. *Potomac Electric Power Co.*, 261 U. S. 428, the Court of Appeals denied a stay of its mandate upon this application for a writ of certiorari (R. 394, 395).

The cases cited by petitioner (p. 27) *Ma-King Products Co.* v. *Blair*, 271 U. S. 479 and *Eastman Kodak Co.* v. *Federal Trade Commission*, 274 U. S. 619, dealing with the powers conferred upon the Federal Courts by the National Prohibition Act (Act of Oct. 28, 1919, c. 85, 41 Stat. 305) and by the Federal Trade Commission Act (Act of Sept. 26, 1914, c. 311, 38 Stat. 717), are inapposite. The National Prohibition Act authorizes a review of the decision of the Com-

"Sec. 16. Any applicant for a construction permit, for a station license, or for the renewal or modification of an existing station license whose application is refused by the licensing authority shall have the right to appeal from said decision to the Court of Appeals of the District of Columbia; and any licensee whose license is revoked by the commission shall have the right to appeal from such decision of revocation to said Court of Appeals of the District of Columbia or to the district court of the United States in which the apparatus licensed is operated, by filing with said court, within twenty days after the

missioner revoking or refusing an application for a permit by the Federal District Courts, in the following language:

> "The manufacturer may by appropriate proceeding in a court of equity have the action of the Commissioner reviewed and the Court may affirm, modify or reverse the finding of the Commissioner as the facts and law of the case may warrant, * * *" Sec. 5.

The Federal Trade Commission Act provides that the Circuit Court of Appeals should have "jurisdiction of the proceeding and of the question determined therein and shall have power to make and enter upon the pleadings, testimony and proceedings set forth in such transcript a decree affirming, modifying or setting aside the order of the Commission". The Court is given no power to make findings of fact, and the Act expressly provides: "The findings of the Commission as to the facts, if supported by testimony, shall be conclusive". Sec. 5.

There is manifestly no similarity between the powers conferred upon the Court of Appeals of the District of Columbia over the Radio Commission and the powers vested in a District Court or in a Circuit Court of Appeals under the Prohibition Act and the Federal Trade Commission Act.

That it was the intention of Congress to make the review afforded by the Court of Appeals administrative is clearly reflected by its legislative history. Mr. White in charge of the passage of the bill in the House successfully opposed an amendment which would have conferred jurisdiction of appeals upon the several Federal Courts, upon the very ground

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decision complained of is effective, notice in writing of said appeal and of the reasons therefor.

The licensing authority from whose decision an appeal is taken shall be notified of said appeal by service upon it, prior to the filing thereof, of a certified copy of said appeal and of the reasons therefor. Within twenty days after the filing of said appeal the licensing authority shall file with the court the originals or certified copies of all papers and evidence presented to it upon the original application for a permit or license or in the hearing upon said order of revocation, and also a like copy of its decision thereon and a full statement in writing of the facts and the grounds for its decision as found and

that the bill was providing an administrative review which the Committee did not believe could be conferred upon the District Courts. He said (Cong. Rec. 69th Cong., 2d Sess. Part 2, p. 5567):

> "Mr. Chairman, I want to say for myself and the members of the committee that we stand on the principle of law laid down in the case cited [Keller v. Potomac Electric Power Company]. We believe it is unconstitutional to attempt to impose on the Federal courts of the United States the administrative and legislative functions which are involved in this amendment. Then there are some practical objections. This paragraph was considered and comes before this House with the unanimous approval of the Committee on The Merchants Marine and Fisheries, except as to the question whether the appeal should be to the Court of Appeals or the Supreme Court of the District."

The present provisions in the act authorizing an appeal to the Federal District Court in cases of revocation of licenses, to which the petitioner herein seeks to attach importance, was inserted by the House conferees as a concession to the wishes of the Senate (Cong. Rec. 69th Cong., Rec. 2d. Sess., Part 3, p. 2563). It was intended to enable station owners, whose licenses were revoked by the Radio Commission, to litigate the propriety of the revocation near home, evidently without full appreciation of the constitutional differences between the power of Congress to confer administrative duties upon the Court of Appeals of the

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given by it. Within twenty days after the filing of said statement by the licensing authority either party may give notice to the court of his desire to adduce additional evidence. Said notice shall be in the form of a verified petition stating the nature and character of said additional evidence, and the court may thereupon order such evidence to be taken in such manner and upon such terms and conditions as it may deem proper.

At the earliest convenient time the court shall hear, review, and determine the appeal upon said record and evidence, and may alter or revise the decision appealed from and enter such judgment as to it may seem just. The revision by the court shall be confined to the points set forth in the reasons of appeal."

District of Columbia and its power to confer such duties upon the Federal District Courts. *See Ex parte Bakelite,* Oct. term, 1928, No. 17; 73 L. ed. 490.

Judge Davis in his book, *The Law of Radio Communication,* (pp. 75, 76) points out the administrative character of the review in the Court of Appeals of the District of Columbia which is afforded by the Radio Act:

> "Under Section 16 of the act, any person whose application is rejected may appeal to the Court of Appeals of the District of Columbia where he is entitled to a hearing and determination *de novo.* The provision follows that already in force for obtaining a review of certain decisions of the Commissioner of Patents and of the Public Utility Commission of the District of Columbia. While the result is undoubtedly to impose upon the court the performance of an administrative rather than a judicial function, the power of Congress to so provide has been upheld by the Supreme Court in cases arising under the previous statutes."

In the present case, the Court of Appeals was exercising its administrative function in ordering the Radio Commission to renew WGY's full time license, and that determination is not reviewable by this Court.

SECOND: The questions sought to be reviewed are unimportant questions of procedure which were correctly determined by the Court of Appeals.

(1) The time for the filing of the appeal.

The Commission contends that the Court of Appeals incorrectly decided when an appeal should be taken, and that the two appeals herein were untimely. That contention is unsound.

The resolution of the Commission of September 8, 1928, which first announced tentatively the terms of the license which the Commission proposed to grant provided (R. 28):

> "1. That said new allocation shall become *effective* at the hour of 3 o'clock A. M. Eastern Standard Time, November 11, 1928, * * *"

The resolution of October 12 granting the limited license provides (R. 34):

> "4. That each license or renewal license issued under the foregoing directions be so worded as *to take effect* on November 11th at the hour of 3 o'clock A. M. Eastern Standard Time and to terminate on January 31st, 1929 at the hour of 3 o'clock A. M., Eastern Standard Time."

While the order of October 12 provided for the issuance of a "limited license", the Commission did not fully define that term until its order of October 24 (R. 111). On October 25 the Commission announced some changes in its previous allocations (R. 181). As late as October 27, WGY was writing the Commission inquiring as to the status of the license proposed to be given it (R. 182-187). The license, when subsequently received, stated that it was for a term beginning November 11, 1928, at 3 o'clock A. M. (R. 188). This was the time when WGY's then existing license for full time operation expired.

The first appeal of the Company was filed on November 9; the second was taken on November 30, to frustrate any contention that the prior appeal was premature. The Court of Appeals held (R. 390):

> "They present the same issues, and while the earlier appeals may have been premature, the last appeal conforms to the rules and is regular."

There is no reason to doubt the correctness of this conclusion.

(2) The submission of additional evidence.

Counsel for WGY, in drafting the statutory "notice in writing of said appeal and of the reasons therefor" stated some matters showing the history of the station, its service to the community and the action of the Commission (R. 2-8, 14-22; 205-282). Copies of all of the exhibits attached to the notice of appeal were on file with the Commission before the appeal was taken.

The Commission filed a lengthy return to the notice of appeal (R. 23-48; 49-52) in which it did not controvert any of the statements in the notice of appeal. The notice of appeal was verified and its statements unchallenged. Under Section 16 the Court had the power to provide for the taking of additional evidence in such manner and upon such terms as it desired. When the matter sought to be laid before the Court was contained in verified affidavits and not controverted, there was no occasion for the Court to order the formal taking of testimony.

Further, as appears from the opinion of the Court, no resort was made by the Court to any matters not contained in the Commission's own "Return" upon the appeal. The facts as to the history of WGY, the investment therein of the General Electric Company, and the unique and meritorious service rendered to over a million listeners in northern New York, Massachusetts, Vermont and New Hamp-

shire are all contained in the Company's application of January 14, which was included in the Commission's return (R. 89-95). The criticism of the Court in this respect is without merit.

(3) The decision denying a renewal of the license was appealable.

The contention of the Commission that its decision of October 12 with reference to the renewal application was not an appealable decision, if sustained, would effectively preclude any questioning of its decisions. On January 14 WGY requested the renewal of its then existing license to operate on Channel 790 kilocycles full time, but the Commission did not grant such renewal, instead issuing a limited license which compelled WGY to cease operations at sunset on the Pacific Coast. To contend that this was not a denial of the renewal but rather was a granting of the renewal is useless sophistry.

(4) The appeal was not moot at the time of the decision.

The Commission's contention that since the licenses to be issued were to be issued on November 11 and were to expire on January 31, there could be no determination after that date of what the Commission should have granted WGY is likewise manifestly unsound. The present case was argued December 3 and 4 (R. 380, 381). The record had not been printed at the time of the argument. The decision of the Court was rendered February 25 and judgment was entered on that day. If, as the Commission contends, the case become moot on January 31, the Commission by issuing licenses for short terms can always preclude a testing of the propriety of its action, because it is virtually impossible to take an appeal, wait the twenty days allowed the Commission to file its return, print the record, prepare briefs, argue the case, and obtain a decision within a shorter time than two or three months.

The Commission's decision not to issue to WGY a renewal of its previously existing license was a fundamental one expressive of a continuing policy to deny WGY the rights to which it was entitled. In *Southern Pacific Terminal Co. v. Interstate Commerce Commission,* 219 U. S. 498, the Interstate Commerce Commission sought to dismiss an appeal from one of its orders as moot upon the ground that the time fixed therein had expired. This Court denied the motion to dismiss saying (p. 515):

> "In the case at bar the order of the Commission may to some extent (the exact extent it is unnecessary to define) be the basis of further proceedings. But there is a broader consideration. The questions involved in the orders of the Interstate Commerce Commission are usually continuing (as are manifestly those in the case at bar) and their consideration ought not to be, as they might be, defeated, by short term orders, capable of repetition, yet evading review, and at one time the Government and at another time the carriers have their rights determined by the Commission without a chance of redress."

(5) The appeal by the State of New York.

The Commission's brief discusses rights of the State of New York to appeal from the decision of the Commission. The State of New York conceived that the interest of its citizens was jeopardized by the action of the Commission in failing to renew WGY's license. Voluntarily and unurged by WGY the State of New York filed an appeal from the decision of the Commission and that appeal was docketed. Upon the hearing before the Court of Appeals, the Deputy Attorney General for New York was not allowed to argue, but was permitted to submit a brief, as was the Attorney General of the State of New Hampshire as *amicus curiæ.* This is all there is to the contention seriously argued that the Court of Appeals has misconstrued Section 16 by permitting one not an applicant for a license to appeal. There was no such con-

struction and the extension to the Attorneys General of New York and New Hampshire of the courtesy of filing briefs in support of the interests of the citizens of those states was not error and is immaterial.

(6) No regulation or order of the Commission was held invalid.

There is some attempt on the part of the petitioner to contend that the Court of Appeals held invalid the Commission's Order No. 40 announced August 30, 1925 (R. 100, 102). It did not, of course, do so in express terms. All that the petitioner means by this contention is that the issuance of a license to WGY for full time operation prevents another station, KGO in the fifth zone, from operating on a cleared channel, as contemplated by the Commission's allocation of licenses under General Order No. 40. No reason is suggested by the Commission why such an effect upon General Order No. 40 should be regarded as placing the question of the renewal of the license of WGY beyond the jurisdiction of the Court of Appeals. The preference shown by the Court of Appeals for public interest, convenience and necessity to the preservation of the exact division of cleared channels among the several zones cannot be validly complained of by the Commission. Certainly, the Commission's administrative orders can neither destroy WGY's property rights nor nullify the salutary provisions of the Radio Act allowing appeals. Any disturbance caused by the Court of Appeals' decision in the Commission's general scheme for the allocation of broadcasting licenses under Order No. 40 is due to the Commission's own action in making the allocation in disregard of the priority rights of WGY and its public service. The Court of Appeals properly refused to consider General Order No. 40 as any bar to the relief to which WGY was entitled.

No rule of law required the Court of Appeals to regard General Order No. 40 as sacrosanct. The decision

of the Commission designating only forty of the ninety channels as cleared channels was in disregard of the unanimous recommendation of the engineers advising the Commission, and was in pursuance of a view which Commissioner Caldwell referred to as held by some of his "political-minded associates" (R. 162). If the Commission had seen fit to comply with the recommendation of its engineers and allocated fifty cleared channels, at least ten would have been allocated to the first zone and one would have been available to WGY without depriving any other station in this zone, to which the Commission assigned a cleared channel, of such a channel.

The Commission in making its allocation disregarded entirely the priority rights of WGY, and assumed to exercise arbitrary power to close down WGY in order that some subsequently established station elsewhere in the United States might operate free from interference. The Court of Appeals held that no sufficient reason appeared for imposing this serious restriction upon station WGY, and that a renewal of its previous license should be granted. In response to this direction, the Commission has licensed WGY to operate full time on Channel 790 kilocycles. But, the Commission has not yet licensed WGY to operate as it did before November 11, for it then had the exclusive use of its channel.

The petition and brief (pp. 8-33) suggest that the Commission proposed an arrangement which would have permitted WGY to broadcast until ten o'clock every evening and that the Court of Appeals erred in disregarding it. This proposed "arrangement", not a license, was predicated upon the fact that the station granted full time (night) operation upon Channel 790 kilocycles, KGO, located in Oakland, California, was also owned by General Electric Company.

Commissioner O. H. Caldwell in a letter (R. 31) which he had initialled by his associates proposed that KGO should

shut down from sunset on the Pacific Coast until seven o'clock and that WGY could operate until ten o'clock. This meant that KGO would have had to cease operations during November from 5:01 to 7, Pacific time, during December from 4:56 to 7, during January from 5:17 P. M. to 7, etc. But Commissioner LaFount wrote to the Company on October 2, 1928, referring to Commissioner Caldwell's letter before the decision of October 12, 1928, expressly stating that he had no "power to give away that which belongs to the Fifth Zone" and warning the Company that if the Oakland, California station objected "then my attitude would be entirely different" (R. 123). Subsequently to this proposal and on October 12 the Commission directed the issuance to WGY of the limited license complained of.

The suggestion of the Commission is chiefly significant in showing that the Commission itself considered its General Order No. 40 as subject to modification.

THIRD: The decision of the Court of Appeals reversing the order of the Commission was correct upon the facts.

The record contains the evidence relied upon by the Commission in making its order refusing to renew the license of WGY. This evidence was reviewed by the Court of Appeals and held insufficient to justify the refusal. No other conclusion on the facts was permissible. The character of the station and the service rendered were not questioned. The evidence failed to show that public interest, convenience and necessity would be served by closing down this station during the evening, and, in fact demonstrated the contrary.

The petition for certiorari should be denied.

Respectfully submitted,

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July 10, 1929.

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DEC 28 1929
CHARLES ELMORE CROPLEY
CLERK

IN THE

Supreme Court of the United States,

OCTOBER TERM, 1929. No. 122.

FEDERAL RADIO COMMISSION,

Petitioner,

against

GENERAL ELECTRIC COMPANY AND PEOPLE OF THE STATE OF NEW YORK.

ON WRIT OF CERTIORARI TO THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

BRIEF OF GENERAL ELECTRIC COMPANY.

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December, 1929.

The Evening Post Job Printing Office, Inc., 154 Fulton St., New York, N. Y.

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IN THE

Supreme Court of the United States.

OCTOBER TERM 1929. No. 122

FEDERAL RADIO COMMISSION,
Petitioner,

AGAINST

GENERAL ELECTRIC COMPANY and PEOPLE OF THE STATE OF NEW YORK.

ON WRIT OF CERTIORARI TO THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

BRIEF OF GENERAL ELECTRIC COMPANY.

This cause comes before this Court upon a writ of certiorari to the Court of Appeals of the District of Columbia. The writ was granted October 14, 1929 upon petition filed June 1, 1929 (R. 395). The opinion of the Court of Appeals (R. 386-392), reported 31 Fed. (2d) 630, was filed February 25, 1929, and a petition for rehearing was denied March 9, 1929 (R. 393).

We shall, first, consider the question as to whether this Court has jurisdiction to review the judgment of the Court of Appeals in the present matter.

PART I.

This Court has no jurisdiction to review the judgment of the Court of Appeals, such judgment being administrative.

The facts upon which the question of jurisdiction arises:

The Radio Act of 1927 (44 Stat. 1162), printed as an appendix in brief of petitioner, was intended to regulate interstate and foreign radio communication, and it provided that no such communication should be conducted except in accordance with the Act and with a license granted under the provisions of the Act (Sec. 1). It created the petitioner, the Federal Radio Commission, to perform such regulation in the manner specified in the Act (Secs. 3, 4). By amendments of 1928 and 1929 (Appendices B and C in petitioner's brief, pp. 143, 145) no license for a broadcasting station shall, at present, be granted for a period to exceed three months.

Secs. 9 and 10 provide for application for license; and the first paragraph of Section 11 provides as follows:

> "If upon examination of any application for a station license or for the renewal or modification of a station license the licensing authority shall determine *that public interest, convenience, or necessity would be served by the granting thereof**, it shall authorize the issuance, renewal or modification thereof in accordance with said finding. In the event the licensing authority upon examination of any such application does not reach such decision with respect thereto, it shall notify the applicant thereof, shall fix and give notice of a time and place for hearing thereon, and shall afford such applicant an opportunity to be heard under such rules and regulations as it may prescribe."

The respondent, General Electric Company, on January 14, 1928 applied, under the Radio Act, for a renewal of the

* Italics ours, in all quotations throughout this brief.

broadcasting license for its station, known as WGY (R. 89-95), which had for many years been conducting full time operation (as distinguished from "limited" time, see p. 24, *infra*) at a frequency of 790 kilocycles. Without giving a hearing to the respondent or to any representative of the community dependent upon WGY for service, the Commission refused to allow WGY to continue to operate during the evening hours, and instead gave a license for only limited time operation, it having, on October 12, 1928, decided that the limited time license "will serve public interest, convenience and necessity" (R. 107, 131).

The Commission took the arbitrary position that it could act upon a renewal application as it saw fit, decreasing hours of operation, power etc., without any hearing and without any appeal from its decision, provided only that the applicant receives *some* kind of a license. The Radio Act was, however, so drawn as to prevent any such arbitrary action.

In this connection that Act provides as follows:

"Sec. 16. *Any applicant* for a construction permit, for a station license, or *for the renewal* or modification *of an existing station license whose application is refused by the licensing authority shall have the right to appeal from said decision to the Court of Appeals of the District of Columbia;* and any licensee whose license is revoked by the commission shall have the right to appeal from such decision of revocation to said Court of Appeals of the District of Columbia or to the district court of the United States in which the apparatus licensed is operated, by filing with said court, within twenty days after the decision complained of is effective, notice in writing of said appeal and of the reasons therefor.

"The licensing authority from whose decision an appeal is taken shall be notified of said appeal by service upon it, prior to the filing thereof, of a certified copy of said appeal and of the reasons therefor. Within twenty days after the filing of said appeal the licensing authority shall file with the court the originals or certified copies of all papers and evidence presented to it upon the original application for a permit or license or in the hearing upon said order of revocation, and also a like copy of its decision thereon and a full statement in writing of the facts and the grounds for its decision

as found and given by it. Within twenty days after the filing of said statement by the licensing authority either party may give notice to the court of his desire to adduce additional evidence. Said notice shall be in the form of a verified petition stating the nature and character of said additional evidence, and the court may thereupon order such evidence to be taken in such manner and upon such terms and conditions as it may deem proper.

"At the earliest convenient time *the court shall hear, review, and determine* the appeal upon said record and evidence, and *may alter or revise the decision appealed from and enter such judgment as to it may seem just.* The revision by the court shall be confined to the points set forth in the reasons of appeal."

The respondent appealed from the refusal to renew its station license and the Court of Appeals, in accordance with the power conferred on it by the terms of the Act, proceeded to "hear, review and determine the appeal".

In doing so, the Court of Appeals did not base its decision on a finding that the Commission's action had wrongfully deprived the respondent "of its property rights by preventing full time operation of station WGY". On the contrary, it rejected that as its ground for decision (last paragraph on p. 390). The Court said, however, that (p. 391):

> "The terms and conditions of the various licenses received and enjoyed by appellant as herein recited also tend to confirm the view that if the time limitation imposed by the Commission upon WGY *be reasonable and such as to serve the public convenience, interest, or necessity,* the order should be sustained; otherwise it should be overruled. Upon this point, however, we feel that the contention of the appellant [respondent here] should be sustained".

The Court of Appeals reviewed the facts (R. 386-392) and held that "the refusal of the Commission to renew its license except as modified with respect to the time of operation amounted to a refusal of a renewal within the sense of the Act of 1927" (p. 390), and that (p. 391):

> "In view of the service to the art hitherto rendered by WGY and still continued by it, with the resulting ad-

vantages to the public, and in view also of the 'public convenience, interest and necessity' of so great a constituency for the full time operation of the station, it appears that *the restriction complained of is not reasonable and should not be enforced.*"

And (p. 392):

"We are convinced that the public interest would be enhanced by granting full time to the latter station", namely, WGY.

So, in accordance with the power conferred by the terms of the Act of 1927 to "enter such judgment as to it may seem just", the Court of Appeals entered the following judgment (R. 393):

"It is now here ordered and adjudged by this court that the appellant, the General Electric Company, was, on November 11, 1928, and is now, entitled to receive from the Federal Radio Commission a renewal of its license to operate station WGY upon the same terms as those contained in the license dated November 1, 1928, to wit, upon 790 kilocycles with power of 50 kw., and without time limit for operation; and that this cause be and the same is hereby remanded to the Federal Radio Commission to carry this judgment into effect, costs to be assessed against the appellee."

That is the judgment here sought to be reviewed.

Argument.

(a) *The judgment, if administrative cannot be reviewed:*

Congress has power to "vest courts of the District (of Columbia) with administrative or legislative functions which are not properly judicial." *Postum Cereal Co.* v. *California Fig Nut Co.*, 272 U. S. 693, 700.

In *Keller* v. *Potomac Electric Company*, 261 U. S. 428, it appeared that the Public Utilities Act of the District of Columbia created the Public Utilities Commission and vested in it the power to investigate the reasonableness, lawfulness

and adequacy of the rate or service and to change the same. The Act further provided that any party dissatisfied with any decision of the Commission may commence a proceeding in equity in the Supreme Court of the District

> "to vacate, set aside, or modify any such decision or order on the ground that the valuation, rates", etc. "fixed in such order is unlawful, inadequate, or unreasonable * * *.
>
> * * * "Any party, including said commission, may appeal from the order or decree of said court to the Court of Appeals of the District of Columbia, and therefrom to the Supreme Court of the United States * * *."

The Court stated (p. 440):

> "What is the nature of the power thus conferred on the District Supreme Court? Is it judicial or is it legislative? Is the court to pass solely on questions of law, and look to the facts only to decide what are the questions of law really arising, or to consider whether there was any showing of facts before the Commission upon which, as a matter of law, its finding can be justified? Or has it the power, in this equitable proceeding to review the exercise of discretion by the Commission and itself raise or lower valuations, rates, or restrict or expand orders as to service? *Has it the power to make the order the Commission should have made?* If it has, then the court is to exercise legislative power in that it will be laying down new rules, to change present conditions and to guide future action and is not confined to definition and protection of existing rights."

The Court then said (p. 441):

> "To modify or amend a valuation, or a rate, or a regulation of the Commission as inadequate, as the court is authorized to do, seems to us necessarily to import the power to increase the valuation, or rate, or to make a regulation more comprehensive, and to consider the evidence before it for this purpose. In other words, the proceeding in court is an appeal from the action of the Commission in the chancery sense."

The Court held that the situation is not analogous to that existing under the Act creating the Commerce Court (the jurisdiction of which was later conferred on the District Courts of the United States) and giving it jurisdiction of all cases brought to enforce, set aside or annul or suspend any order of the Interstate Commerce Commission. The Court said (p. 442) that this Act

> "permits these Courts to consider all relevant questions of constitutional power or right and all pertinent questions whether the administrative order is within the statutory authority, or is an attempted exercise of it so unreasonable as not to be within it; but these are questions of law only. *Interstate Commerce Commission* v. *Illinois Central R. R. Co.* 215 U. S. 452, 470. Of course, the consideration and decision of questions of law may involve a consideration of controverted facts to determine what the question of law is, but it is settled that any finding of fact by the Commission, if supported by evidence is final and conclusive on the courts. *Interstate Commerce Commission* v. *Union Pacific R. R. Co.* 222 U. S., 541, 547."

Also, as to the attempted analogy with the review of orders of the Federal Trade Commission, the Court held (p. 442):

> "A similar distinction exists between the jurisdiction here conferred and that vested in circuit courts of appeals in reference to proceedings before the Trade Commission."

Comparing the Public Utilities Act with those creating the Interstate Commerce Commission and the Federal Trade Commission, the Court said (p. 442):

> "The language of the act under discussion is much wider than that of the Interstate Commerce Act or of the Federal Trade Commission provisions. It brings the court much more intimately into the legislative machinery for fixing rates than does the Interstate Commerce Act. *We can not escape the conclusion that Congress intended that the court shall revise the legislative dis-*

cretion of the Commission by considering the evidence and full record of the case and entering the order it deems the Commission ought to have made."

The Court then held invalid that portion of the Public Utilities Act giving an appeal to this Court, saying (pp. 443-4):

> "The court proceedings to review the orders of the Commission authorized by paragraph 64 are expressly required to conform to equity procedure. In that procedure, an appeal brings up the whole record and the appellate court is authorized to review the evidence and make such order or decree as the court of first instance ought to have made, giving proper weight to the findings on disputed issues of fact which should be accorded to a tribunal which heard the witnesses. This Court is, therefore, given jurisdiction to review the entire record and to make the order or decree which the Commission and the District Courts should have made.
>
> *"Such legislative or administrative jurisdiction, it is well settled can not be conferred on this Court either directly or by appeal."*

In *Postum Cereal Company* v. *California Fig Nut Company,* 272 U. S. 693, there was an appeal from the decision of the Court of Appeals of the District in a proceeding to review a decision of the Commissioner of Patents refusing to cancel the registration of a trademark. The Court held that the decision of the Court of Appeals is not a judicial judgment but a mere administrative decision "by a Court which is made part of the machinery of the Patent Office for administrative purposes"; and that the Supreme Court "can only review judicial judgments" (pp. 688-689).

The Court concluded (p. 701):

> "With this limitation upon our powers, it is not difficult to reach a conclusion in the present case. We should have had no power to review the action of the District Court of Appeals if it had heard the appeal and taken administrative jurisdiction, and by the same token have now no power to review its action in refusing such jurisdiction.

> "But it is said that this leaves the appellant without any remedy to review the decision of the District Court of Appeals and makes its conclusion final in respect of the construction of the Trade-Mark Act of 1920. Even if this be so, as to which we express no opinion, it cannot furnish a reason for exceeding the constitutional powers of this Court."

In re Vidal, 179 U. S. 126, was an application for leave to file a petition for certiorari. The Court, after quoting Sec. 716 of the Revised Statutes (Judicial Code, Sec. 262; Title 28 U. S. C. Sec. 377) held that the military courts were not constitutional courts and that, therefore, the application should be denied, saying:

> "Nor are such tribunals courts with jurisdiction in law or equity within the meaning of those terms as used in the Third Article of the Constitution, and the question of the issue of the writ of certiorari in the exercise of inherent general power cannot arise in respect to them."

So it would seem to be clear that, if the judgment of the Court of Appeals, in the present controversy, was legislative or administrative in character, this Court cannot review it.

(b) *The judgment was purely administrative:*

The Commission is to grant, or renew, a license if "public interest, convenience, or necessity would be served by the granting thereof" (Radio Act, Sec. 11, *supra,* p. 2). But the Commission is not to be the sole and final judge as to whether or not such public interest, convenience or necessity would be served. An applicant whose application is refused "shall have the right to appeal from said decision to the Court of Appeals of the District of Columbia" which "shall hear, review and determine the appeal" and "may alter or revise the decision appealed from and enter such judgment as to it may seem just" (Radio Act, Sec. 16, *supra,* p. 3).

Certainly the Commission itself acts as a purely administrative or executive body. And certainly the provision of the Act as to appeal "brings the court much more intimately

into the" administrative machinery than did the Public Utilities Act considered in *Keller* v. *Potomac Electric Co.*, p. 5, *supra*, where the statute gave the Court power "to vacate, set aside or modify any such decision" without adding (as does the Radio Act) the power to "enter such judgment as to it may seem just". As was said in the *Keller* case, "we cannot escape the conclusion that Congress intended that the Court shall revise the legislative discretion of the Commission by considering the evidence and full record of the case and entering the order it deems the Commission ought to have made."

This conclusion is further enforced by the provision in Sec. 16 of the Radio Act (p. 3, *supra*) that if, after the appeal has been taken, either party gives "notice to the court of his desire to adduce additional evidence", the court "may thereupon order such evidence to be taken in such manner and upon such terms and conditions as it may deem proper". The court is then to hear and determine the appeal not only upon the record brought up from the Commission but "upon said record and evidence"—evidence which may never have been before the Commission at all.* So the Court of Appeals is given full power and opportunity to ascertain the facts, for itself, and to weigh those facts and then "enter such judgment as to it may seem just" or, as expressed in the *Keller* case, enter "the order it deems the Commission ought to have made".

It is clear that Congress, in enacting the Radio Act, *intended* to make the review afforded by the Court of Appeals administrative. While the bill was in the House, an amendment was proposed whereby jurisdiction of appeals would be

* In this respect, as well as in others, the Radio Act differs from the Federal Trade Commission Act (Act of Sept. 26, 1914, c. 311, 38 Stat. 717). In the latter, while additional testimony may be ordered to be taken, such testimony must "be taken before the Commission" (Sec. 5) which must report thereon; and "the findings of the Commission as to the facts, if supported by testimony, shall be conclusive"—which provision does not occur in the Radio Act.

conferred upon the several Federal Courts, instead of upon the Court of Appeals of the District of Columbia. Such amendment was successfully opposed by Mr. White, upon the ground that the administrative review which it was desired to obtain could not be granted to the United States District Courts, although it could be granted to the Court of Appeals of the District of Columbia. Mr. White said (Cong. Rec. 69th Cong., 2d Sess. Part 2, p. 5567):

> "Mr. Chairman, I want to say for myself and the members of the committee that we stand on the principle of law laid down in the case cited (*Keller* v. *Potomac Electric Power Company*). We believe it is unconstitutional to attempt to impose on the Federal courts of the United States the administrative and legislative functions which are involved in this amendment."

It is interesting to note that the first paragraph of Sec. 16, of the Radio Act, down to the semicolon, vests in the Court of Appeals of the District appeals from refusals to grant, renew or modify a station license, while the latter part of that paragraph deals with *revocation* of licenses and vests appeals from a decision of revocation in the Court of Appeals of the District or "in the district court of the United States in which the apparatus licensed is operated." These words do not affect the situation now before the Court, because they apply to revocation and not renewals of licenses. Nor does their presence in the Act even tend to prove that the jurisdiction on appeal is other than administrative. In *ex parte Bakelite Corporation*, 279 U. S. 438, it was urged that the provision "purporting to authorize temporary assignments of circuit and district judges to the Court of Customs Appeals when vacancies occur" showed that Congress intended the Court to be a constitutional court. This Court held (p. 460):

> "But, if there be constitutional obstacles to assigning judges of constitutional courts to legislative courts, the provision cited is for that reason invalid and cannot be

saved on the theory that Congress intended the court to be in one class when under the Constitution it belongs in another."

Again, in *Keller* v. *Potomac Electric Co.*, p. 5, *supra*, this Court held that the fact that the Public Utilities Law provided for an appeal to the Supreme Court did not mean that the proceeding under Section 64 of the Law was otherwise than administrative or legislative; the Court merely held that that portion of Section 64 was invalid.

Judge Davis in his book, *The Law of Radio Communication*, (pp. 75, 76) points out the administrative character of the review in the Court of Appeals of the District of Columbia which is afforded by the Radio Act:

> "Under Section 16 of the act, any person whose application is rejected may appeal to the Court of Appeals of the District of Columbia where he is entitled to a hearing and determination *de novo*. The provision follows that already in force for obtaining a review of certain decisions of the Commissioner of Patents and of the Public Utility Commission of the District of Columbia. While the result is undoubtedly to impose upon the court the performance of an administrative rather than a judicial function, the power of Congress to so provide has been upheld by the Supreme Court in cases arising under the previous statutes."

No analogy helpful to the petitioner can be drawn from the National Prohibition Act. That Act authorizes a review by the Federal District Courts of a decision of the Commissioner revoking or refusing an application for a permit, as follows (Sec. 5):

> "The manufacturer may by appropriate proceeding in a court of equity have the action of the Commissioner reviewed and the Court may affirm, modify or reverse the finding of the Commissioner as the facts and law of the case may warrant * * *."

Judge Thacher, in *Smith* v. *Foster*, 15 Fed. (2d) 115 (D. C. S. D. N. Y.), points out that the review by the District

Court is judicial, and that the Court cannot "try the case over again upon new evidence not before the Commission". Judge Thacher correctly states that to do so would substitute "the action of the Court for the action of the Commission, and result in new conclusions of law and of fact reached by the Court not considered by the Commissioner". But Section 16 of the Radio Act expressly provides for trying the case over again upon new evidence (p. 3, *supra*), and empowers the Court of Appeals not only to "alter or revise" the decision appealed from *but also* to "enter such judgment as to it may seem just."

Likewise, the Federal Trade Commission Act, as pointed out in the *Keller* case (p. 5, *supra*), gives to the court no such broad powers as those given by the Public Utilities Act, there under consideration, nor as the still broader powers given by the Radio Act (see, also, foot note, p. 10, *supra*).

Petitioner contends that the Court of Appeals held invalid a regulation of the Commission and, in doing so, acted as a judicial, and not an administrative, body. But the Court of Appeals did not hold invalid any regulation of the Commission; it decided that WGY was entitled to a renewal of its license because "public interest, convenience or necessity" would thus best be served. The validity of an authority exercised under the United States is not in question. The respondent does not dispute the authority of the Federal Radio Commission to make regulations which it has made (numbers of cleared channels, wave lengths etc), but does dispute the act of the Commission, in refusing to renew the WGY license for operation upon one of those cleared channels (see foot note, p. 22, *infra*). As this Court pointed out in *Taylor* v. *Taft*, 203 U. S. 461, quoting from *U. S.* v. *Lynch*, 137 U. S. 280:

> "The validity of a statute is not drawn in question every time rights claimed under such statute are controverted, nor is the validity of an authority, every time an act done by such authority is disputed * * *.
>
> "What the relator sought was an order coercing these officers to proceed in a particular way, and this order

> the Supreme Court of the District declined to grant. If we were to reverse that judgment upon the ground urged, it would not be for want of power in the Auditor to audit the account, and in the Comptroller to revise and pass upon it, but because those officers had disallowed what they ought to have allowed and erroneously construed what needed no construction. This would not in any degree involve the validity of their authority."

The petitioner contends that because the Court of Appeals assessed costs, its decision that the WGY license should be renewed was judicial, and not administrative. That is not so.

"Taxable costs are made so either by statute, rule of court, or order of court in a specific case, or by established usage, the equivalent of a rule". *Parkerson* v. *Borst,* 256 Fed. (C. C. A., 5th Cir.) 827, 828. Prior to the passage of the Radio Act of 1927, Rule XIX of the Court of Appeals provided as follows:

> "3. In cases of reversal of any judgment, order or decree by this court, costs shall be allowed to the appellant, unless otherwise ordered by this court."

Congress, in providing that an appeal could be taken to the Court of Appeals unquestionably gave that court full jurisdiction, not limited so that it could not apply its rules in the case of a reversal of the order of the Commission.

Further, even if the Court of Appeals erred in awarding costs, which is denied, such error certainly could not affect the nature of the powers vested in the Court by the Radio Act. If such powers are administrative, the Court of Appeals cannot change them by allowing costs.

The petitioner finally contends that the grant of a stay order pending appeal (R. 380), establishes that the powers of the Commission were judicial, in deciding that the WGY license should be renewed. The Court of Appeals was given, by Sec. 16 of the Radio Act, specific power to "hear, review, and determine the appeal" and to "enter such judgment as

to it may seem just". And, in the exercise of this jurisdiction, it had inherent power to issue orders in support thereof, and the power to enter intermediate judgments or orders in aid of its final judgment.

The Act establishing the Court of Appeals, February 9, 1893, 27 Stat. 434, Sec. 11, is as follows:

> "Sec. 11. That the said Court of Appeals shall have power to issue all necessary and proper remedial prerogative writs in aid of its appellate jurisdiction."

The Court could not act effectively in its appellate powers if it were powerless to preserve the *status quo* pending appeal. Without such power, the decision of the Court of Appeals might well be futile.

(c) *Conclusion as to jurisdiction:*

The real test is whether the Court of Appeals had "the power to make the order the Commission should have made". *Keller* v. *Potomac Elec. Co.,* 261 U. S. 428, 440. It seems to us to be clear that the Court of Appeals does have that power, and, consequently, that it was acting as an administrative body and this Court has no power to review its action.

And, as was said in the *Postum Cereal* case (p. 9, *supra*), if this makes the judgment of the Court of Appeals final, that "cannot furnish a reason for exceeding the constitutional powers of this court".

If, however, this Court decides that it has jurisdiction, then the merits of the controversy are to be examined.

PART II.

Statement of the Facts on the Merits.

1. *The Record.*

Sec. 16 of the Radio Act (p. 3, *supra*) provides that an applicant who appeals from the Commission shall serve upon the Commission and file "a certified copy of said appeal and of the reasons therefor" and that, within twenty days after appeal, the Commission "shall file with the Court the originals or certified copies *of all papers and evidence presented to it* upon the original application for a permit or license * * * and also a like copy of its decision thereon and a full statement in writing of the facts and the grounds for its decision as found and given by it". So much is compulsory.

In addition, within twenty days after the filing of the Commission's statement, "either party may give notice to the Court of his desire to adduce additional evidence * * * and the Court may thereupon order such evidence to be taken in such manner and upon such terms and conditions as it may deem proper".

In the present matter, the respondent served and filed the required copy of the appeal "and of the reasons therefor". These appear at pages 1-9, 14-23 with exhibits (filed with the Commission with the application for license) at pages 205-282.

Thereafter, the Commission filed copies "of all papers and evidence presented to it" upon the application and "a full statement in writing of the facts and the grounds for its decision as found and given by it". These consist of the following, appearing at the following places in the Record:

Statements of facts and grounds for decision, pages 23-48, 49-52.

Exhibits, pages 54-204 and 282-363.

The Court of Appeals, accordingly, had before it all of the facts which were before the Commission itself.

Each party seems to have felt that the papers, thus filed, correctly set forth the pertinent facts and all of such facts. For, though each had an opportunity "to give notice to the court of his desire to adduce additional evidence", no such notice was given.

The controlling facts are not in dispute. We shall state them in chronological order.

2. *The community dependent upon WGY:*

The community dependent upon WGY is largely located in Albany, Schenectady, Troy, Amsterdam, Utica and many villages and rural sections not only in Central and Northern New York but also in Vermont, Western Massachusetts and New Hampshire. These communities are dependent upon WGY because they are outside of the good service area of any first class broadcasting station other than WGY (Rec. 3, 210).

The great, almost vital, importance of WGY to these communities can be appreciated from the storm of protest which spontaneously arose, when it became known that the Radio Commission was proposing to cancel the license of WGY to operate in the evening. The following extracts are typical of thousands of letters that have been received by the company or the Commission, many of which were before the Commission as a part of the respondent's application for renewal of its license.

From Frank Bigelow, lawyer, Malone, N. Y., to United States Radio Commission (R. 216):

> "I can scarcely conceive of any other possible action that could more deeply injure the users of radio receivers in all this 'North Country' for it will amount almost to confiscation of the money now invested in radio sets in the northern tier of counties in New York State, and I think of many more counties to the south and in Vermont, * * *

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Sec. 16 of the Radio Act (p. 3, *supra*) provides that an applicant who appeals from the Commission shall serve upon the Commission and file "a certified copy of said appeal and of the reasons therefor" and that, within twenty days after appeal, the Commission "shall file with the Court the originals or certified copies *of all papers and evidence presented to it* upon the original application for a permit or license * * * and also a like copy of its decision thereon and a full statement in writing of the facts and the grounds for its decision as found and given by it". So much is compulsory.

In addition, within twenty days after the filing of the Commission's statement, "either party may give notice to the Court of his desire to adduce additional evidence * * * and the Court may thereupon order such evidence to be taken in such manner and upon such terms and conditions as it may deem proper".

In the present matter, the respondent served and filed the required copy of the appeal "and of the reasons therefor". These appear at pages 1-9, 14-23 with exhibits (filed with the Commission with the application for license) at pages 205-282.

Thereafter, the Commission filed copies "of all papers and evidence presented to it" upon the application and "a full statement in writing of the facts and the grounds for its decision as found and given by it". These consist of the following, appearing at the following places in the Record:

Statements of facts and grounds for decision, pages 23-48, 49-52.

Exhibits, pages 54-204 and 282-363.

The Court of Appeals, accordingly, had before it all of the facts which were before the Commission itself.

Each party seems to have felt that the papers, thus filed, correctly set forth the pertinent facts and all of such facts. For, though each had an opportunity "to give notice to the court of his desire to adduce additional evidence", no such notice was given.

The controlling facts are not in dispute. We shall state them in chronological order.

2. *The community dependent upon WGY:*

The community dependent upon WGY is largely located in Albany, Schenectady, Troy, Amsterdam, Utica and many villages and rural sections not only in Central and Northern New York but also in Vermont, Western M..ssachusetts and New Hampshire. These communities are dependent upon WGY because they are outside of the good service area of any first class broadcasting station other than WGY (Rec. 3, 210).

The great, almost vital, importance of WGY to these communities can be appreciated from the storm of protest which spontaneously arose, when it became known that the Radio Commission was proposing to cancel the license of WGY to operate in the evening. The following extracts are typical of thousands of letters that have been received by the company or the Commission, many of which were before the Commission as a part of the respondent's application for renewal of its license.

From Frank Bigelow, lawyer, Malone, N. Y., to United States Radio Commission (R. 216):

> "I can scarcely conceive of any other possible action that could more deeply injure the users of radio receivers in all this 'North Country' for it will amount almost to confiscation of the money now invested in radio sets in the northern tier of counties in New York State, and I think of many more counties to the south and in Vermont, * * *

"If the common people who listen to broadcasting in northern New York felt sure that a letter would do any good, I think within the next forty-eight hours you would receive about one hundred thousand letters at least protesting as strongly as I am doing against your crippling WYG in this matter."

From Wallace L. McNeil, Charlotte, Vt., to WGY, enclosing letter to Senator Greene (R. 220):

"* * * Tonight, for instance, at 8/10 o'clock, WGY is coming very well, while only at WJZ and WEAF is it possible to hear any signal, and both these are too weak for any value. I was just talking with a neighbor over the 'phone and she mentioned that if WGY goes off the air, their receiver will be junked, as no other station reaches us with any steady reliability.

"* * * I doubt if you appreciate half what WGY means to Vermont and Northern New York. For balance of programme, combining as you do, market reports, etc., studio and local programmes and connections with WEAF, for all-round value, I believe WGY is our best example, not only of what a well-balanced radio station *could* be, but *is*."

From A. G. Meston, Pittsfield, Mass., to WGY (R. 221):

"I am only one of many hundreds who living in this particular district, depend almost entirely on WGY for radio entertainment. If this station were taken away, as there is talk of so doing, it would mean that all radio sets, whether powerful or otherwise, would be practically of no use to their owners.

"My own set is a fair average, being a six-tube Fada, but unless it is an exceptional night, I get no dependable reception except through WGY. That has been the one and only salvation of people living in this part of the country."

From Murray A. Dekin, Lowville, N. Y., to WGY (R. 223):

"* * * For nearly six years WGY has been and continues to be the backbone of local radio entertainment. * * *

"Please do not construe that the basis for the above statements is the ownership of an inferior radio set, as I am more than satisfied with the Zenith machine which I now own."

From Grace T. Halliday, Oneida, N. Y., to WGY (R. 223):

"* * * Were it not for WGY the radio would be of little value many nights, as reception is such that many other stations cannot be brought in. If WGY is taken off the air I may as well sell my set, which is a Grebe and therefore not a cheap set."

From J. H. McLear, Gouverneur, N. Y., to Radio Commission (R. 225):

"My attention has just been called to the outrageous ruling just issued by your commission, whereby WGY broadcasting station of the General Electric Co., at Schenectady is to be silenced during the evening hours.

"For your information I beg to say that WGY is about the only source of radio waves which is at all dependable for the people residing in Northern New York."

These facts regarding the operation of WGY are not, and can not, be questioned. They were all before the Commission when it refused to renew WGY's full time license.

3. *The operation of, and licenses to, WGY:*

The respondent commenced to operate its broadcasting station WGY in February, 1922 (R. 2, 24). It is the tenth oldest broadcasting station in the United States (R. 2), and its record as a pioneer, development station is second to none. The Department of Commerce made it one of its development stations, and, to a very large extent, the development of modern transmitting and receiving apparatus is due to the work done at that station (R. 3).

Its first license was under the Act of 1912 and was dated February 4, 1922 (R. 59-65). The license was revocable

only for cause (R. 59). At that time there were very few broadcasting stations, transmitting powers were small, and all such stations could, and did, operate on the same channel, namely, 360 meters which corresponds with 832.8 kilocycles (R. 66). Station WGY continued to operate at this frequency until September 27, 1922, when the common broadcasting frequency was changed to 400 meters or 749.6 kilocycles (R. 66).

On May 21, 1923, WGY established its operations on a wave length of 380 meters, or 790 kilocycles, and it has been operating at this frequency, on full time, ever since that time (R. 66-68). This wave length was maintained by WGY as an exclusive channel except as follows:

In 1923, the Rensselaer Polytechnic Institute at Troy, New York, a neighboring educational institution, began broadcasting at the frequency of 790 kilocycles for one night each week. This station was known by the call letters WHAZ. This use did not interfere with the broadcasting operations of WGY as at that time carried on. WHAZ continued to broadcast one night each week until November 1, 1927 (R. 192).

During a few months in 1927, the Radio Commission authorized low-powered stations (500 watts or less) to operate in Nebraska, Tennessee, Florida and California at a frequency of 790 kilocycles (R. 192, 193). The experiment was soon abandoned and it does not appear that these stations substantially interfered with the operations of WGY.

Aside from this, which did not involve any loss of service to the community dependent upon WGY, that station has operated on a cleared channel without interference ever since May 21, 1923. Over a million and a half dollars has been invested in the station in reliance upon a right to continue its operations (R. 3).

The program service given has always been of the highest quality. And the great importance, perhaps necessity, of its service to the communities of Northern New York, Vermont, New Hampshire and Massachusetts, is impressively clear.

On November 1, 1927, the Commission, which had been established by the Radio Act of 1927, issued a broadcasting license to WGY, for unlimited time of operation, at a frequency of 790 kilocycles, and power output of 50,000 watts (R. 88, 89), this license being thereafter extended to November 11, 1928.

4. The application for renewal:

On January 14, 1928, the respondent filed an application for renewal of the foregoing license (R. 90-95).

This application set forth the location of the station in Schenectady, N. Y.; its daily periods of actual operation including from six o'clock to late at night, the average time of closing being 11.45; 790 kilocycles as the frequency used and 50 K. W. as the power; and containing the following answer to the following question:

> "12. Why will the operation of the station be in the public convenience, interest, and necessity? The population within 100 miles of Schenectady exceeds 1,400,000. This community, including Albany (New York State capital), Troy, Amsterdam, Utica, and many villages and rural sections, has depended almost entirely on WGY during the past six years for radio programs. The New York City, Boston, Springfield and Buffalo stations are not well received in this vicinity on account of fading. Many more distant listeners have depended on WGY for a comparatively reliable program source. Public interest has been clearly indicated in listeners' letters commenting on WGY's services in broadcasting political and educational talks, police reports, music and entertainment of varied character so selected that they would fill the needs of our comparatively large rural audience which is especially dependent on radio during leisure hours. WGY has the resources of the research laboratories of the General Electric Company and is used as a developmental station for testing new inventions and ideas. Among the major improvements developed in connection with WGY are: Higher powered transmitters; large vacuum tubes; condenser microphones; accurate maintenance of assigned frequency (WGY was the senior Bureau of Standards standard

frequency station); short wave developmental broadcasting including a 32.77 meter, and a 22 meter transmitter operating on regular schedules; development of means for improving audio frequency characteristics bettering the quaity of broadcasting; antenna design. Thus, WGY has assisted in designing transmitters for other stations desirous of taking advantage of current developments. It is believed that because of its part in the development of the radio art and its service to broadcast listeners, the WGY station activities could not be discontinued without imposing a real public hardship."

On August 30, the Commission issued General Order 40, allotting various frequencies to each of the five zones established under the Radio Act, including the allotment of 790 kilocycles to the Fifth Zone which is on the Pacific Coast (R. 100, 101). This General Order 40 did not state what stations were to have the frequencies.*

The application for renewal of the WGY license was still pending, unacted upon, when General Order No. 40 was issued.

On September 11, the Commission sent to broadcasting stations, including WGY, a *tentative* allocation (R. 107), dated September 8 (R. 105), including station WGY as a *limited time* station, operating on 790 kilocycles (R. 109).

Immediately upon receipt of this notice, the respondent through correspondence and interviews endeavored to have the Commission modify this tentative plan, and to obtain a renewal, as applied for on January 14, 1928, of the WGY license then in effect (R. 115-129, 162-188). On October 6,

* The petitioner repeatedly insists that General Order 40 is attacked in this cause. That is not so. No question is here made of the right of the Commission to allot frequencies among the various zones. And respondent does not assert any right to the particular frequency of 790 kilocycles as against any equivalent frequency. The substantial issue is the right of the Commission to close down WGY, wholly or partially, without cause shown.

1928, the respondent filed an application for modification of the tentative allocation, asking for a full time license for WGY (R. 125).

The respondent, as late as October 27, was still inquiring as to what license was to be given, "either as heretofore or on the new allocation" (R. 187).

On October 23, the respondent, having heard nothing as to the fate of its application, and it being doubtful whether an application such as it had filed on October 6 for modification of a tentative allocation was authorized by the terms of the Radio Act, filed still another application for renewal of the WGY license (R. 206-216), out of an abundance of caution and to bring the matter of its application again definitely before the Commission in order to protect not only its own rights but also the rights of those sections of the country dependent upon WGY. This application specified as follows (R. 213):

> 'The General Electric Company is satisfied with its present frequency but understands that the same, under a plan of reallocation, has been assigned to the Fifth Zone. If, therefore, such frequency is no longer available, the General Electric Company is prepared to accept in lieu thereof, an equivalent frequency which will enable it to continue the service which it has rendered in the past. The General Electric Company will also accept a power assignment equal to the maximum allowed any other station".

5. *The action of the Commission:*

Meanwhile, and without the knowledge of the respondent, the Commission had held a meeting on October 12 at which it decided not to renew the license (R. 61), it having determined (R. 107, 131) that the revised allocations

> "will serve public interest, convenience or necessity and are necessary to prevent interference between broadcasting stations".

And, the order of the Commission states (R. 133):

> "1. That to each broadcasting station listed in said revised allocation which has an application for renewal

of its license pending before the Commission, a renewal license be issued for the frequency, power and hours of operation indicated in said revised allocation.

* * * * * *

4. That each license or renewal license issued under the foregoing directions be so worded as to take effect on November 11th at the hour of 3 o'clock A. M., Eastern Standard Time and to terminate on January 31st, 1929 at the hour of 3 o'clock A. M., Eastern Standard Time.

* * *

790 Kilocycles:

WGY.....	Schenectady, N. Y.....	Gen. Elec. Co.	50,000 ltd. time
KGO.....	Oakland, Cal.....	Gen. Elec. Co.	10,000

(R. 138).

In accordance with this order, a license dated October 17, 1928, was subsequently issued to the respondent for a limited time of operation of WGY effective at 3 A. M. November 11, 1928 (R. 188, 189). This license was received by General Electric Company on October 29, 1928 (R. 269).

By General Order No. 48 dated October 24, 1928, a limited time broadcasting station was defined as follows (R. 111-112):

"A limited time broadcasting station is hereby defined as a station which, under its license from this Commission, is permitted to operate during hours allowed daytime broadcasting stations as specified in General Order No. 41, and in addition during certain time temporarily not used by the unrestricted station or stations on the same frequency. An example is the use of late evening hours by a limited time broadcasting station in the West after closing of an Eastern station on the same frequency.

A limited time broadcasting station desiring to operate after sunset shall so notify the Commission, which will ascertain what hours the use of which is not desired by the unrestricted station or stations on the same frequency, and will thereafter authorize the operation of the limited time station accordingly, subject, however, to the right of said unrestricted station or stations to reclaim the use of such hours upon reasonable notice to the Commission and to the limited time broadcasting station.

A limited time broadcasting station will not be permitted to operate at any time when its operation will cause heterodyne interference with other broadcasting stations assigned to the same frequency."

A daytime broadcasting station is defined by Order No. 41, dated September 4, 1928 (R. 109):

> "*It is ordered* that a daytime broadcasting station is hereby defined as a station which under its license from this Commission is permitted to operate only during certain designated hours during the daytime and is not permitted to operate at any time when its operation will cause heterodyne interference with other broadcasting stations assigned to the same frequency.
>
> No daytime station will be permitted to operate after the average time for sunset during any particular month, to be determined from time to time by the Chief Engineer of the Commission. The time of such sunset shall be taken with reference to the location of the transmitter of the daytime broadcasting station unless it is the farthest East of the stations assigned to the same frequency; in this event the time shall be taken with reference to the location of the transmitter of the nearest broadcasting station on the same frequency located to the West of such daytime broadcasting station."

The Chief Engineer of the Federal Radio Commission ascertained the average times of sunset for each month of the year at Oakland, California, finding the earliest sunset time, in Pacific time, to be 4:56 and the latest, 7:32 (R. 130).

Radio is most used immediately after darkness from September until March (R. 349, 356), as is a matter of common knowledge.

The order of the Commission was, accordingly, a direction to the respondent to close down station WGY at 8:32 in the evening in October, 8:01 in November, 7:56 in December, 8:17 in January, 8:48 in February, and 9:18 in March. This was tantamount to a cancellation of the license of WGY.

The respondent, having been advised on October 29 that its application for renewal of its full time operation license

would not be granted, made a final effort before the Commission, under date of November 3, in the form of an application for modification of the limited time license of October 17, with request to be heard on November 7 or 8 (R. 270), as the then existing license was due to expire on November 11. No hearing was granted.

6. *The appeal to the Court of Appeals:*

On Friday, November 9, 1928, no hearing having been granted by the Commission and the WGY license being about to expire on November 11, the respondent appealed to the Court of Appeals (No. 4870 in that court) and, to preserve the *status quo* during determination of the appeal, motion was made and granted, after hearing counsel for the Commission and for the respondent, for a stay pending appeal (R. 380).

At the insistence of the Commission, the Court of Appeals set the argument for the earliest possible date, viz. December 3rd. At that time, there was before the Court "notice in writing of the appeal and of the reasons therefor" (R. 1-8), as provided in Section 16 of the Radio Act, submitted by the respondent, the substance of the reasons being the failure of the Commission to renew the WGY full time license. It then became the duty of the Commission to present to the Court the evidence upon which it based its decision to deny full time operation to WGY.

On November 27, the Commission filed a motion to dismiss the appeal, on the ground that it was premature, among other reasons (R. 364-367). On November 30, the respondent filed a second notice of appeal (No. 4880 in that court), to meet any possible question of the appeal being premature.

On December 1 and 3, the Commission and the respondent filed their respective briefs, and on December 3 and 4, the cause was fully argued before the Court of Appeals. Because the record was not printed prior to the argument, the briefs did not refer to any record. It was agreed, for the aid of the Court, that briefs might subsequently be submitted, which

would refer to such record as might be finally prepared and filed by the Commission.

This record was completed on January 10, 1929. The respondent filed on February 8, a brief identical with its former brief on the merits, except that pages in the record were referred to.

The petitioner now insinuates, but does not openly charge, that the Court of Appeals in deciding the cause on February 25, acted unfairly, because the Commission was then engaged in "preparation of a brief on the merits", which was not completed until after the decision. But the Commission's case was fully before the Court of Appeals before decision. The so-called "brief on the merits" contained nothing that was not in the earlier briefs filed by the Commission. This sufficiently appears from the following, taken from the first two pages of the Commission's later brief, viz.:

> "This brief is in answer to the 'Brief for General Electric Company' filed on February 8, 1929, which in substance is the same as the brief on the merits previously filed by the same appellant on December 3, 1928 (the day on which oral argument commenced). It is unnecessary, therefore, to give any separate consideration to the first brief, and any mention of appellant's brief hereinafter made should be taken to mean the second brief.
>
> "Practically everything necessary to meet the contentions made in either brief will be found in the Commission's brief filed on December 1, 1928, but, in order to provide the Court with a convenient and more compact means of reference on the questions raised by appellant, we are filing this further brief."

Thus, there can be no fair attack upon the Court of Appeals upon the ground that its decision was rendered before it had a brief from the Commission, fully setting forth the latter's contentions.

On March 5 the Commission filed a petition for rehearing which was denied on March 9 (R. 393).

7. The decision on appeal:

The Court rendered its opinion on February 25, 1929 (R. p. 386). We have reviewed that opinion at pages 4, 5, *supra.*

Judgment was entered on the same day (R. 392).

The decision and judgment were based upon a consideration and review of the same evidence which was before the Commission.

The respondent, pursuant to the requirement of the Radio Act that it must file "notice in writing of said appeal and of the reasons therefor", had filed its notice of appeal and, as a part of its reasons therefor, filed its applications for renewal which had not been granted and matters pertaining thereto, *all of which was of record* with the Commission before appeal. Commission's brief, p. 41, is in error in stating that "General Electric Company injected a mass of 'additional evidence' into the record by attaching it to its notice of appeal". The Commission had all this evidence before it prior to the appeal.

The Commission filed a lengthy return to the notice of appeal (R. 23-48, 49-52 including numerous documents as exhibits, pages 54-201), in which it set up various matters concerning which the respondent had never been heard. But the Commission did not controvert any of the statements in the "notice of appeal and of the reasons therefor."

Further, as appears from the opinion of the Court of Appeals, that Court did not rely upon any matters not contained in the Commission's own "Return" to the appeal. The facts as to the history of WGY, the investment therein of the respondent, and the unique and important service rendered to more than a million listeners in Northern New York, Massachusetts, Vermont and New Hampshire are all contained in the application of January 14, 1928, which is a part of the Commission's "Return" (R. 89-95). The Commission did not, and made no attempt to, controvert those facts.

So, the Court of Appeals, in deciding that the WGY license should be renewed, had before it and acted upon precisely the same evidence that the Commission had acted upon in precisely the same matter.

A petition for rehearing was filed by the Commission in the Court of Appeals, and denied March 9, 1929 (R. 393).

Outline of Argument on the Merits.

1. The action of the Commission in refusing to renew the license for full time operation of WGY was a refusal of an application "for the renewal * * * of an existing license", within the meaning of the Radio Act; and the right to appeal to the Court of Appeals of the District came into existence under the terms of that Act.

2. The appeal was taken within the time specified in the Act.

3. The controversy did not become a moot one, by reason of the fact that, had the Commission granted the application and renewed the license for three months (to which licenses are limited under the terms of the Act), such renewed license would have expired before judgment was entered. The Court still had jurisdiction to review the Commission's order and enter judgment.

4. The Court of Appeals rightly decided that the Commission's refusal to grant the respondent's application for renewal of the WGY license for full time operation was unreasonable and was contrary to the public convenience, interest and necessity.

5. The Court of Appeals properly assessed costs.

6. Any other conclusion of the Court as to the unsoundness of the Commissioner's order would have resulted in the taking of the respondent's property right (for full time operation) without compensation.

ARGUMENT.

I. The Commission had refused the application for renewal.

The respondent's broadcasting station WGY had long been operating under a license for full time operation and serving a community which was not adequately served by any other station (see pp. 17-20, *supra*).

On January 14, October 6, October 23 and November 3, 1928 the respondent filed application for renewal of its license for full time operation (pp. 21, 22, 23, 26, *supra*).

The Commission offered to it only a limited license, that is, a license not permitting it to operate in the evening hours (see pp. 24, 25, *supra*) which are the most important hours for broadcasting service.

That, as a practical matter, this was tantamount to closing the station entirely, is made abundantly clear from the storm of protest which arose from individuals who were dependent upon WGY for broadcasting service (see letters R. 216-241), and from Chambers of Commerce (R. 248-264). The situation was so serious that the Attorney General of the State of New York, on behalf of the people of that State, filed an appeal from the decision of the Commission and that appeal was docketed (R. 10). Upon the hearing before the Court of Appeals, the Deputy Attorney General for New York was not allowed to argue, but was permitted to submit a brief, as was the Attorney General of the State of New Hampshire, as *amicus curiæ*.

The limited time license which the Commission offered differed so radically from that which the respondent had been enjoying and for the renewal of which it applied, and resulted in such a disastrous curtailment of service to the public, that it amounted to a refusal to renew. And so the Court of Appeals found, saying (R. 390):

> "The appellant rightly contends that the refusal of the Commission to renew its license except as modified with respect to the time of operation amounted to a refusal of a renewal within the sense of the Act of 1927."

Any other conclusion would mean that the Commission was left to be the sole and final judge of the requirements of the "public convenience, interest, and necessity." But it is clear that Congress intended and provided that the Commission should not be the final judge, Congress having provided for a review by the Court of Appeals.

The Commission asserts that giving WGY a part time license was "a granting and not a refusal of the renewal application" for full time operation, and, therefore, "not an appealable decision". Thus, according to the Commission's contention, an application for renewal of a full time license would be granted by issuing a license to operate one hour a day, as indeed was argued by Commission's counsel in the Court of Appeals.

Broadcasting stations may represent, as in the case of WGY, the expenditure of more than a million dollars, and the creation of extremely valuable good will. Communities have rights to adequate broadcasting service. Yet, if the contention of the Commission is sound, all these rights can be destroyed, without hearing or appeal.

That contention is unsound, and, the decision refusing renewal of WGY's full time license was appealable.

II. The Appeal was Timely.

The first paragraph of Sec. 16 of the Radio Act (p. 3, *supra*) provides, first, for an appeal from a refusal to *renew* a license and, second, following the semicolon, for an appeal from an order *revoking* a license. This latter portion of the paragraph requires that the appeal shall be filed "within twenty days after the decision complained of is effective." There is no similar provision in the first portion of the paragraph, which portion deals with refusals to renew a license.

If there be *no* time limit as to appeals from orders refusing to renew a license, then, of course, the present appeals were taken in time.

If the time limit specified for appeals from revocation of licenses is to be taken as applicable to appeals from refusals to renew a license, then the present appeals were likewise taken in time, as will appear from the following consideration of the dates.

The Commission states that its "decision" not to grant a full time license to WGY was made at a meeting of the Commission on October 12, 1928 (R. 44). A limited time license was issued or, rather, was dated as being issued, on October 17 (R. 188) but was not mailed to respondent until October 27 (R. 269) which, even as late as that date, was writing to know what, if any, license was to be issued (R. 186-7). The license which the Commission thus tendered to the respondent was a limited time license "for the term beginning November 11, 1928 and ending January 31, 1929" (R. 269). Therefore, October 27, 1928, the date of mailing the limited time license, or October 29, the date of its receipt, was the date of the refusal of the application for the full time license.

The respondent's first appeal was filed on November 9 (R. 1-10) which was about thirteen days from the date of refusal of the application.

But it was suggested that that appeal was premature in that the order was not to become effective until November 11, 1928 and that, according to the terms of the Radio Act, the appeal should be filed within twenty days "after the decision complained of is effective." So, to avoid any contention that the appeal was premature, the respondent filed the appeal of November 30 (R. 13-23). That was filed less than twenty days after November 11, the date when the order become effective.

The Court of Appeals held as to these two appeals (R. 390):

> "They present the same issues, and while the earlier appeals may have been premature, the last appeal conforms to the rules and is regular".

The appeal of November 30, 1928, was timely.

III. The Controversy did not become Moot.

The license under which WGY was operating, and of which it asked a renewal, was to expire on November 11, 1928. The March 28, 1928 amendment of the Radio Act provided (Appendix B, petitioner's brief p. 443, Sec 3) that no broadcasting license shall be renewed "for a period to exceed three months." So, if the Commission had renewed the WGY license, the renewed license would have expired not later than February 11, 1929.

The present appeals were taken on November 9 and 30, 1928. The appeals were argued on December 3 and 4. The record had not been printed at the time of the argument. The opinion of the Court was filed on February 25, 1929 and judgment was entered on that day. The whole proceeding had been conducted very expeditiously (though not hastily, for full opportunity for a complete presentation of the matter was afforded and utilized, but the opinion and judgment were not entered until after the license, had it been renewed by the Commission, would have expired, and would have been subject to further renewal.

If, under such circumstances, the Court of Appeals could not enter its judgment, on the theory that the controversy had become moot, the Commission, by issuing licenses for short terms could always preclude a testing of the propriety of its action. It is impossible to take an appeal, wait the twenty days allowed the Commission to file its return, print the record, prepare briefs, argue the case, and obtain a decision within a shorter time than two or three months. The provision of the Act, as to appeals, would become futile.

But the Commission's decision not to issue to WGY a renewal of its previously existing license was a fundamental one, expressive of a continuing policy. In *Southern Pacific Terminal Co.* v. *Interstate Commerce Commission,* 219 U. S. 498, the Interstate Commerce Commission sought to dismiss

an appeal from one of its orders as moot upon the ground that the time fixed therein had expired. This Court denied the motion to dismiss saying (p. 515):

> "In the case at bar the order of the Commission may to some extent (the exact extent it is unnecessary to define) be the basis of further proceedings. But there is a broader consideration. The questions involved in the orders of the Interstate Commerce Commission are usually continuing (as are manifestly those in the case at bar) and their consideration ought not to be, as they might be, defeated, by short term orders, capable of repetition, yet evading review, and at one time the Government and at another time the carriers have their rights determined by the Commission without a chance of redress."

IV. The Judgment of the Court of Appeals was correct.

Within one hundred miles of WGY there is a population of approximately two million, four hundred thousand, including residents in Albany, Schenectady, Troy, Amsterdam, Utica, Poughkeepsie, Hudson, Saratoga, Rome, Kingston and Glens Falls in New York State, Pittsfield and Adams in Massachusetts, Rockland in Vermont, and many towns, villages and farms in the States of New York, Massachusetts, Vermont and New Hampshire. Because of the characteristics of this region, there are many institutions within this area devoted to the welfare of the afflicted and poor, such as the Disabled Veterans Hospital at Tupper Lake, New York; Albany Hospital for Incurables, Home for Aged at Schenectady, N. Y., and the hospitals, sanitariums, camps and convalescent homes in the Catskills, Adirondacks and Lake George regions.

This large and important community is nearly entirely dependent upon WGY for broadcasting service. For rea-

sons not entirely understood, in the present technical knowledge of radio, persons in this section cannot well receive from broadcasting stations located outside of that part of the country. The "convenience, interest and necessity" of that large body of the public cannot be overlooked.

The result of the discontinuance of service from WGY in the evenings would be disastrous to the convenience and interest of that large community to which the WGY service is a necessity, if it is to have radio service at all. And it is entitled to such service, and good service, as is every section of the country as a whole.

The Commission suggests that the respondent should arrange with station KGO (which is a station on the Pacific Coast owned by the respondent and to which the Commission has assigned full time operation on 790 kilocycles) to borrow, on behalf of WGY, some of the evening hours to which KGO is entitled. That is, the Commission has determined that KGO is, because of "public convenience, interest and necessity", entitled to full time operation, and still the Commission suggests that the public on the Pacific Coast shall give up the service to which it is entitled. Surely something better than that can be done. *Both* communities are entitled to service. The Court of Appeals dealt with this phase of the matter as follows (R. 302):

> "We have but little information concerning station KGO, except that it operates on a power of 10000 watts, and that it also is owned by the General Electric Company. It must be assumed that WGY operating in the evening with a power of 50000 watts would at certain distances interfere with the broadcasting of KGO, with its smaller power. It does not appear, however, that this interference would compare in point of public inconvenience with that resulting from the silencing of WGY after sunset at Oakland, nor that full time operation in the evening by WGY with 790 kilocycles would seriously impair the general scheme of allocation otherwise adopted by the Commission. We are convinced that the public convenience would be enhanced by granting full time to the latter station."

Again, the Commission suggests that the respondent should have filed an application for renewal of its WGY license for the use of other than 790 kilocycles, namely, for the use of some specified frequency which the Commission has assigned, for full time operation, to some other station in the First Zone in which WGY is located. That is, that the respondent should enter into a controversy with some other station. But it is the Commission, not some other station, which is doing what is complained of. It is the Commission, and not some other person or body, to which the respondent should look in order to obtain its rights.

Moreover, the Commission's action detrimental to the interests of those who are dependent upon WGY for their broadcasting service was wholly unnecessary. The Commission's stated difficulty in giving a full time operation, or "cleared channel" to WGY was based upon having only 40 cleared channels as a whole, 8 for each of the five zones. The Commission's own engineers recommended 50 cleared channels for high powered stations which would have meant 10 for each zone. If this recommendation had been adopted, the intent of Congress to secure a territorial division of station licenses could have been carried out without interfering with the service to the community which must rely upon WGY for service.

The report of the engineers of April 6, 1928 (R. 306) stated,

> "The fundamental change required to bring about any material improvement is to provide a considerable number of channels upon which only one station operates. The reason for this is a purely physical fact since heterodyne interference extends to many times the distance to which actual program service from a broadcasting station extends, operation of two or more stations on a channel results in an area of destructive interference much greater than the area in which program service is provided. Program service, free from interference can be furnished at great distances from a station only when the station has exclusive use of its channel."

The engineers accordingly recommended:

> "The number of channels (50) indicated for Class C stations is the minimum that should be provided in view of the far greater service, both distant and local, that will be rendered by such channels, owing to the absence of heterodyne interference and the consequent possibility of the use of greater power."

In the discussion of the proposal for a different form of allocation from that recommended by the engineers, Dr. Dellinger, of the Bureau of Standards, a Government bureau, and Chief Engineer for the Radio Commission, said (R. 336):

> "Perhaps the chief point of the engineers' recommendations which has been overlooked is the outstanding importance of providing not less than fifty exclusive channels, together with the fact that very much more power can be used on exclusive channels than on shared channels. It is only on exclusive channels that listeners at a distance can receive service. The rural population of the country will be heavily discriminated against unless a large number of exclusive channels are provided."

In his testimony before the Radio Commission, Mr. J. V. L. Hogan, an eminent radio engineer, and also a consultant of the Commission, said (R. 355):

> "The areas that may be served by high powered stations operating on clear channels when compared with the areas served by numerous stations of low power operating on one channel shows the use of clear channels to be more economical. If fifty stations of the power of 100 watts are scattered throughout the country on a single channel, each being 200 miles removed from any other station, an area of approximately 35,000 square miles will receive service from the entire number. A 5000-watt station on a clear channel will serve an area of 500,000 square miles with a signal of one-half of an intensity unit, thus permitting a better average grade of service than that rendered by the 100-watt stations.

"This illustration furnishes a sound basis for the conclusion that every channel assigned to many small stations results in useless loss of service to many people."

Dr. Dellinger also testified (R. 359):

"A greater area is served by one 50,000-watt station than by the aggregate number of small stations with the same total power."

There is, and can be, no dispute as to the correctness of these statements. High-powered stations, operating full-time upon cleared channels, can furnish better quality service, to remote listeners, than any other system. *It is undisputed that WGY is such a station as should have a cleared channel for evening operation.* Thus, the answer of the Commission states (R. 45):

"Appellant's station is of such a character with respect to power capacity, and the region desired to be served by it is of such extent, that it can be accommodated only on a cleared channel".

As Commissioner O. H. Caldwell, appointed to represent the First Zone, wrote to the respondent under date of October 17, 1928, in a letter put in evidence by the Commission (R. 162, 163):

"Answer to your letter of last week has been delayed by the pressure of the Commission's hearings and other work and my own desire to report to you as fully as possible the results of my continuing efforts to secure an increase in the number of clear channels for each Zone, so that WGY might have a full-time assignment on one of these.

"Certainly I sympathize with the desire of yourself and my many good friends in the General Electric Company to have a separate, exclusive channel for WGY, and it is my view that the Commission has made a grave mistake in not providing ample clear channels to take

care of WGY in this manner. I consistently maintained this throughout the Commission's deliberation, pending the adoption of a plan, and *have always urged the use of fifty clear channels as all the engineers unanimously advised.*

"Some of the Commissioners, however, wanted 25, one none, and it was by the barest chance, after weeks of argument, that we were able to get forty approved.

"Since talking with you and receiving your letter I have again had this matter of an additional clear channel for Zone One before the Commission several times, in your behalf. Such a reassignment, I believe, would be in the public interest by enabling many more listeners to be served, than can ever be reached by the small stations on such channels. It would also enable us to solve some very difficult situations in the Fourth Zone. At present, it seems impossible to get a Commission majority to approve such a proposal of even forty-five clear channels (one additional for each Zone), but *I believe that some of my political-minded associates are beginning to realize the soundness of engineering advice* and that an accord of 45 clear channels may later be readily reached. In fact, I am hoping that the full fifty clear channels, (two additional per zone) may be available by next June, so that WBAL, Baltimore, may continue full time when WTIC's new 50,000 transmitter is completed.

"As the public learns that it is better served by one great station like WGY, than by the two or three 500 watt stations which consume the same wave length, and this realization is brought to members of Congress, (who have heretofore generally *opposed* large stations and as many exclusive channels as the engineers want) the other members of the Commission will undoubtedly reverse their views into favoring the large stations as the instruments of greatest public service."

No sound reason appears why Mr. Caldwell's "political-minded associates" should have disregarded the reports and recommendations of their own engineers. If these reports and recommendations had been followed, broadcasting reception in the United States would have been improved in a

scientific and definite way, and at the same time the community dependent upon WGY could be served.

The Commission's brief, p. 97, attempts to support the choice of 40 cleared channels, by reference to some communications and memoranda sent to the Commission by others than the respondent, which was never given a hearing on the issue of how many cleared channels should be employed. But, the fact is clear that the Commission could have complied with every provision of the Radio Act, and the Davis amendment, by providing 50 clear channels as recommended by its engineers. The Commission's apparent desire to allow some low powered stations to operate (not in the WGY area), can not excuse its attempted closing down of WGY during evening hours.

We submit that the Court of Appeals was amply justified, and was right, in directing that the respondent was entitled to the renewal of its license for full time operation.

V. The Court of Appeals properly assessed costs.

Section 16 of the Radio Act is silent as to costs on appeals to the Court of Appeals.

Congress, in vesting jurisdiction in the Court of Appeals to consider applications for broadcasting licenses, necessarily gave that Court authority to proceed in accordance with its rules (see p. 14, *supra*).

Costs are discretionary, and it was entirely proper for the Court of Appeals to assess the costs against the Commission.

VI. The Property Right to Operate WGY as a Full Time Station.

It was urged, in the Court of Appeals, as one reason why the order of the Commission should be set aside, that the order would wrongfully deprive the respondent of its property rights to full time operation of station WGY.

The Court of Appeals mentioned, but did not find it necessary to base its decision on, this point (R. 300-301).

This Court may not wish to consider the matter of the property right unless it holds that it has jurisdiction of the case (as we do not believe it has, for the reasons above expressed) and, having that jurisdiction, decides that the Commission was right and the Court of Appeals was wrong in determining that the renewal of the WGY full time license would not serve the "public interest, convenience, or necessity".

In the event, however, that this Court may desire to inquire into the property right, we present it here.

We believe that this Court has not heretofore had before it the matter of property rights in a radio broadcasting station, its operation on full time, etc. Such property rights have been discussed in the following cases:

White v. *Federal Radio Commission et al.*, 29 Fed. 2nd 113, 114 (Dist. Ct. N. D. Ill.).

United States v. *American Bond and Mortgage Co.*, 31 Fed. 2nd 448, 455-456 (Dist. Ct. N. D. Ill.).

City of New York v. *Federal Radio Corporation*, U. S. Daily, Nov. 6, 1929, p. 2226 (Ct. of App. D. C.).

Technical Radio Laboratories v. *Federal Radio Commission*, U. S. Daily, Nov. 7, 1929, p. 2242 (Ct. of App. D. C.).

1. *The facts upon which the right is based:*

As we have heretofore pointed out, WGY is one of the oldest broadcasting stations in the United States, there being only nine stations which have a longer period of service.

It has been broadcasting on full time operation ever since May 21, 1923 and has been efficiently serving a large community which must rely upon it alone for service, as that community is so located that it cannot get good reception from any other station.

The station represents an investment of over one and a half million dollars. Such an investment was not made, and could not be made, except in reliance upon a right to continue to give the service for which it was installed.

Then the Radio Commission, established in 1927, attempts, after WGY has been in full time operation for more than four years, to take away from it the right to broadcast during the evening hours, the most valuable time for broadcasting.

And, it should be particularly noted that the Commission does not take the full time operation away from WGY because such operation is against the public interest, convenience or necessity, but in order to give such full time operation to some other station, in the First Zone, which has come later in the field.

And it should further be noted that the Commission has made no showing that the ones to whom full time operation on cleared channels have been given are better entitled to them than is WGY from whom a cleared channel has been taken, nor that such other stations can better serve the public interest, convenience or necessity (No such showing could be made, p. 34, *supra*).

The issue is not whether the Commission could validly regulate the use by WGY of its broadcasting operations. The respondent in this cause has not questioned, and does not now question, the right of the Commission to regulate broadcasting, including the right to allot to WGY any channel or frequency other than, but equivalent to, 790 kilocycles. But, the respondent does deny the right of the Commission to prevent WGY operating, wholly or partially.

2. The legal principles:

The legal principles applicable to the facts under consideration are not novel, although their application may be. In *Buchanan* v. *Warley,* 245 U. S. 60, 74, it is said:

> "Property is more than the mere thing which a person owns. It is elementary that it includes the right to acquire, *use* and dispose of it. The Constitution protects these essential attributes of property".

When the respondent established WGY, now the tenth broadcasting station in the United States, it owed a duty to operate this station in such a way as not to interfere with the right of the other stations, which had been previously established, to use such stations practically, that is, free from the interference of any electrical impulse generated by the respondent at WGY. Similarly, subsequently established stations are under a duty so to use their stations without interfering with WGY. Priority of time as against any subsequent station gives to the respondent superiority of right to be free from interference caused by subsequently established stations. And this, in our view, is a property right.

The superior right of the first appropriator of water in the western states has been eloquently described by Mr. Justice Field in *Jennison* v. *Kirk,* 98 U. S. 453, at p. 457.

Again, this Court declared in *Atchison* v. *Peterson,* 20 Wall. 507, with respect to the rights of the first appropriator of water (p. 512):

> "And he who first connects his own labor with property thus situated and open to general exploration, does, in natural justice, acquire a better right to its use and enjoyment than others who have not given such labor."

The same rule of priority of appropriation is applied in trade-mark cases. In *Hanover Milling Co.* v. *Metcalf,* 240 U. S. 403, it is said (p. 415):

> "Expressions are found in many of the cases to the effect that the exclusive right to the use of a trade-mark is founded on priority of appropriation. Thus, in *Canal Co.* v. *Clark,* 13 Wall. 311, 323, reference is

made to 'the first appropriator'; in *McLean* v. *Fleming*, 96 U. S. 245, 251, to 'the person who first adopted the stamp'; in *Manufacturing Co.* v. *Trainer*, 101 U. S. 51, 53, the expression is 'any symbol or device, not previously appropriated, which will distinguish,' etc. But these expressions are to be understood in their application to the facts of the cases decided. In the ordinary case of parties competing under the same mark in the same market, it is correct to say that prior appropriation settles the question, * * *"

And, in determining the respective rights of public utility companies operating in the same field, priority of time gives superiority of right. In *Los Angeles Gas & Electric Co.* v. *City of Los Angeles*, 241 Fed. 912, affirmed 251 U. S. 32, the City of Los Angeles by ordinance attempted to compel a public utility occupying the streets of Los Angeles to relocate its poles and lamps and apparatus in order to make room for a municipal lighting system. The District Court said (pp. 919-920):

"When, however, pursuant to the terms of its lawful franchise, it has established its poles and wires and other instrumentalities in the public streets, it may lawfully and properly object to being compelled to remove or relocate them in order that another company, a competitor of later origin and right coming in, may take their place and thereby be enabled to carry on its own intended business. In other words, in this as in many other relations, first in time is first in right, and superiority of right consequent upon being first in time may not be nullified by even necessary requirements of a competitor or other utility later in time and therefore inferior in right. (Citing cases.) In 200 Pa. 209, 219, 49 Atl. 766, 767, 86 Am. St. Rep. 712, the Supreme Court of Pennsylvania said:

"'As between two corporations exercising similar franchises upon the same streets, priority carries superiority of right. Equity will adjust the conflicting interests as far as possible and control both so that each company may exercise its own franchises as fully as is compatible with the necessary exercise of the other's. But, if limitation or interference of one

or the other are unavoidable, the later must give way, and the fact that it is under contract with the city for work of a public nature does not alter its position, or give it any claim to preference.'

This Court in affirming the judgment said, 251 U. S. 40:

"It will be observed that we are not concerned with the duty of the corporation operating a public utility to yield uncompensated obedience to a police measure adopted for the protection of the public, but with a proposed uncompensated taking or disturbance of what belongs to one lighting system in order to make way for another."

That is exactly the situation presented by the order of the Commission. The Commission required respondent to operate its station at WGY during the daytime only, in order that some other station located elsewhere in the United States may be free from the interference of station WGY at night.

This is nothing short of taking the property of the respondent and giving it to another.

In a recent book on The Law of Radio Communication, by Judge Stephen Davis, formerly Solicitor of the Department of Commerce, these general principles are referred to and it is said (p. 131):

"As applied to broadcasting stations prior to the exertion of regulatory authority under the Radio Act of 1927, it must be concluded that the courts would protect the one first in the field as against interference from a newcomer, in spite of the novelty of the situation. For while the specific condition was new, the general principle was old and well established. It furnished the only basis for determination. It must be remembered that the builder of the last station was not confined to any particular locality nor to any particular wave-length. Under the 1912 law, he might choose both location and channel at his will, having regard only to the conditions of his neighbors. If he finds that wave-lengths available for use in a certain locality are all appropriated by others, that is the penalty he pays for being late."

The right of the respondent to maintain its broadcasting station WGY on a cleared channel was firmly established prior to the Radio Act of 1927. The right to be free from interference from subsequently established stations was a property right which gave value to the investment in the station and equipment at WGY. To deprive respondent of the right to use this property is to deprive it of the property itself.

Congress under the interstate commerce clause of the Constitution may perhaps regulate the use of the ether by broadcasting stations. Respondent does not here question such regulatory power. If the Radio Commission had desired to assign to it a frequency other than 790 kilocycles so that it might operate its station equally as well as on such frequency, respondent would have accepted such assignment; and it notified the Commission that it would do so. The issue here is not as to frequency, but as to the right to operate. And, the power to regulate does not include the power to destroy the property of the respondent, in order to build up the property of someone else. In the *Los Angeles* case (*supra*) the City of Los Angeles had the power to regulate the location of poles and lamps. But, it could not constitutionally exercise this power to require one electric light company to make room for another.

3. *The prohibition of the use of Station WGY is a taking of the property in violation of the Fifth Amendment of the Constitution.*

The United States Government does not own the ether. It has no proprietary rights to the ether, which entitle it to grant licenses to some and refuse licenses to others. If the ether is susceptible of ownership at all, as between the United States Government and the States, it belongs to the States, just as the bed and waters of navigable streams belong to the States and not to the Federal Government. *Smith* v. *Maryland,* 18 How. 71, 74; *Mumford* v. *Wardwell,* 6 Wall. 423; *Weber* v. *Harbor Commissioners,* 18 Wall. 57, 66.

As a matter of fact, as said in Commission's brief, p. 148, "The ether is an hypothetical medium. There is no satisfactory definition of it. It is not even known to exist."

The power of Congress to regulate broadcasting is derived from the power to regulate interstate and foreign commerce. This power is the power "to prescribe the rule by which commerce is to be governed". *Gibbons* v. *Ogden,* 9 Wheat. 1.

In *Hammer* v. *Dagenhart,* 247 U. S. 251, 269-270, this power was defined as follows:

> "In other words, the power is one to control the means by which commerce is carried on, which is directly the contrary of the assumed right to forbid commerce from moving and thus destroy it as to particular commodities."

In that case it was held that Congress had no power to prohibit products of child labor from moving in interstate commerce. Decisions such as *Champion* v. *Ames,* 188 U. S. 321 (lottery tickets); *Hipolite Egg Co.* v. *United States,* 220 U. S. 45 (pure food); *Hoke* v. *United States,* 227 U. S. 308 (white slave traffic act) and *Clark Distilling Co.* v. *Western Maryland Ry. Co.,* 242 U. S. 311 (intoxicating liquors) were declared to be based "upon the character of the particular subjects dealt with" and it was held with respect to the Federal Child Labor Act (pp. 271-272):

> "The act in its effect does not regulate transportation among the States, but aims to standardize the ages at which children may be employed in mining and manufacturing within the States."

An attempt was made to sustain the Act in that case upon the ground that the States which permitted child labor were given an unfair advantage over the States which prohibited it. As to this contention, the Court said (p. 273):

> "There is no power vested in Congress to require the States to exercise their police power so as to prevent possible unfair competition. Many causes may co-

operate to give one State, by reason of local laws or conditions, an economic advantage over others. The commerce clause was not intended to give to Congress a general authority to equalize such conditions."

The order of the Radio Commission did not attempt to regulate whatever interstate commerce the respondent is engaged in. The purpose of the order was not to regulate the radio waves generated at WGY, but to prevent them.

The aim of the Commission was to prohibit interstate commerce between WGY and its radio public, so as to encourage interstate commerce between some other station and its public.

The station of the respondent at WGY is useful for only one purpose. To deprive the company of the right to use this station for that purpose is to render the property useless for any purpose. In this respect a broadcasting station differs from other property, the use of which has often been regulated by legislation. Zoning laws, for instance, prohibit the owner of property from using it for certain purposes, but all other purposes for which the property can be used are left open. Here, however, the property is available for only one use, and if that use is prohibited, there is as effective a taking of the property as if title should be acquired.

The Commission's order assumed to be a permanent direction to respondent not to operate its station during the only periods when the station can be operated to advantage. It attempted to reduce station WGY from the eminent position which it has achieved to a subordinate position. It cut respondent off from the ability to secure programs of the highest quality from advertisers and thus immediately and directly affects the programs furnished by WGY not only to listeners in the United States, but also through its affiliated short wave transmission stations to its radio public in foreign countries.

In Davis on the Law of Radio it was recognized that if the Radio Commission should attempt to revoke the licenses

of any existing radio stations serious constitutional questions would be presented. Judge Davis said, page 65:

> "If the commission, however, should refuse to issue a license to the owner of apparatus constructed and operating prior to the passage of the law, the question of the constitutional rights of the owner may easily arise. The owner may contend either that he is deprived of his prop erty without due process of law, or that his property is taken for public use without just compensation, in either case in violation of the Fifth Amendment to the Federal Constitution."

In *Pumpelly* v. *Green Bay Company*, 13 Wall. 166, a property owner's land was flooded as a result of the erection of a dam authorized by the State of Wisconsin and by the United States. The Constitution of Wisconsin provided that "the property of no person shall be taken for public use without just compensation therefor." It was contended that there was no taking of the land within the meaning of the constitional provision and that the damage sustained was merely a consequential result of the use of a navigable stream for the improvement of navigation. This Court answered this contention, saying (pp. 177, 178):

> "It would be a very curious and unsatisfactory result, if in construing a provision of constitutional law, always understood to have been adopted for protection and security to the rights of the individual as against the government, and which has received the commendation of jurists, statesmen, and commentators as placing the just principles of the common law on that subject beyond the power of ordinary legislation to change or control them, it shall be held that if the government refrains from the absolute conversion of real property to the uses of the public it can destroy its value entirely, can inflict irreparable and permanent injury to any extent, can, in effect, subject it to total destruction without making any compensation, because, in the narrowest sense of that word, it is not *taken* for the public use. Such a construction would pervert the constitutional provision into a restriction upon the rights of the citizen,

> as those rights stood at the common law, instead of the government, and make it an authority for invasion of private right under the pretext of the public good, which had no warrant in the laws or practices of our ancestors."

In *United States* v. *Lynah,* 188 U. S. 445, the United States constructed a dam in a navigable river and thereby raised the level of the river so as to take away the possibility of drainage from nearby land used as a rice plantation. This Court held that there had been a taking of the property within the scope of the Fifth Amendment, declaring (p. 470):

> "It is clear from these authorities that where the government by the construction of a dam or other public works so floods lands belonging to an individual as to substantially destroy their value, there is taking within the scope of the Fifth Amendment. While the government does not directly proceed to appropriate the title, yet it takes away the use and value; when that is done it is of little consequence in whom the fee may be vested."

Again, in *United States* v. *Cress,* 243 U. S. 316, where the Federal Government has raised water by the construction of a dam above its normal level so as to subject land permanently to periodical overflows substantially injuring though not destroying their value, it was held that there had been a partial taking of the property for which compensation was required.

In none of these cases was title to the land taken. In all of them the owner was held entitled to compensation because he had been deprived of its use. The deprivation of the use of the property was held a taking of the property. It is true that in other cases, it has been held that recovery cannot be had for consequential damages caused by an improvement made by Congress in the exercise of its power over navigable streams. But, while property is held subject to

the paramount power of Congress to make such improvements in the interest of navigation (*Union Bridge Co.* v. *United States,* 204 U. S. 364; *Greenleaf Lumber Co.* v. *Garrison,* 237 U. S. 251), it is none the less true that such an invasion of property as constitutes a substantial deprivation of its beneficial use is a taking for which compensation must be made.

The property of the respondent at WGY may possibly be said to have been acquired with knowledge that Congress might regulate whatever interstate commerce respondent was engaged in. But respondent did not acquire its property subject to the possibility that under the guise of a regulation of interstate commerce, an attempt would be made to prevent the efficient use of its property, in order that another might use it.

The power of Congress to enact reasonable regulations to foster and promote interstate commerce is no greater than the police power of the state to enact reasonable laws for the promotion of public health, safety and welfare. Yet in *Pennsylvania Coal Co.* v. *Mahon,* 260 U. S. 393, a statute of the State of Pennsylvania forbidding the mining of coal in a certain manner, this Court said was unconstitutional as applied to a coal mining company that had previously acquired rights that were interfered with by the statute.

> "Government hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law. As long recognized, some values are enjoyed under an implied limitation and must yield to the police power. *But obviously the implied limitation must have its limits, or the contract and due process clauses are gone.* One fact for consideration in determining such limits is the extent of the diminution. When it reaches a certain magnitude in most if not all cases there must be an exercise of eminent domain and compensation to sustain the act. So the question depends upon the particular facts" (p. 413).
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> * * * * * *
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> "To make it commercially impracticable to mine certain coal has very nearly the same effect for constitu-

tional purposes as appropriating or destroying it. This we think that we are warranted in assuming that the statute does" (pp. 414-415).

* * * * * *

"The general rule at least is, that while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking * * *" (p. 415).

The same principle was recently reaffirmed in *Delaware, Lackawanna & Western R. R. Co.* v. *Morristown*, 276 U. S. 182, where it was held that the police power of the State did not authorize the using of railroad station grounds for a public hack stand (p. 193):

"But, assuming that under the circumstances the creation of the public hack stand would be a proper exertion of the police power, it does not follow that the due process clause of the Fourteenth Amendment would not safeguard to the owner just compensation for the use of its property. *Penna. Coal Co.* v. *Mahon*, 260 U. S. 393, 416. The police power may be and frequently it is exerted to effect a purpose or consummate an enterprise in the public interest that requires the taking of private property; but, whatever the purpose or the means employed to accomplish it, the owner is entitled to compensation for what is taken from him. The railroad grounds, station, platforms, driveways, etc., are used by the petitioner for the purposes of its business as a common carrier; and, while that business is subject to regulation in the public interest, the property used belongs to petitioner. The State may not require it to be used in that business, or take it for another public use, without just compensation, for that would contravene the due process clause of the Fourteenth Amendment."

The property of the respondent in station WGY, created, developed and in full use before the Radio Act of 1927, can not be destroyed by the Commission.

4. *The Radio Act does not authorize the Commission to destroy the property of respondent in WGY.*

The Federal Radio Commission was established by the Radio Act of 1927.

Prior to this Act, licenses to operate broadcasting stations had been issued by the Secretary of Commerce under the Act of Congress of August 13, 1912, 37 Stat. 302. This Act, as held in *Hoover* v. *Inter City Radio Company*, 286 Fed. (Ct. of App., D. C.) 1003, gave no discretion to the Secretary of Commerce to refuse licenses. In *United States* v. *Zenith Radio Corporation*, 12 Fed. (2d) 614, (D. C. Ill.), it was held that the operation of a radio station upon a wave length other than the one assigned in the license did not subject the company so operating the station to the penalties provided by the Act of 1912, which was thus ineffectual to prevent the erection of new broadcasting stations or to prevent interference between existing stations. President Coolidge, in his annual message to Congress in December, 1926, urged that further legislation should be speedily enacted. (Congressional Record, Vol. 68, Part I, p. 32).

On December 8, 1926, a joint resolution was passed as a stop gap until adequate legislation could be framed, providing in effect that no original license for the operation of any radio broadcasting station and no renewal of a license of an existing broadcasting station should be granted for longer periods than 90 days (44 Stat. 917). The resolution further provided:

> "* * * no original radio license or the renewal of an existing license should be granted after the date of the passage of this resolution unless the applicant therefor shall execute in writing a waiver of any right or of any claim to any right, as against the United States, *to any wave length* or to the use of the ether in radio transmission because of previous license to use the same or because of the use thereof."

The debates in Congress which may be looked to, not for the purpose of construing any particular provision, but for the purpose of ascertaining the general situation which Congress had in mind and with reference to which Congress legislated (*Ozawa* v. *U. S.*, 260 U. S. 178, 194; *U. S.* v. *Katz*, 271 U. S. 354, 357) indicate that there was no intention on the part of Congress to authorize the Commission to de-

prive stations of their vested property rights. Congress intended to authorize the Commission to regulate the operation of stations, with respect to particular frequencies, etc., as is clear from the words of the Radio Act (see Congressional Record, Vol. 68, Part III, p. 3027). Part of the controversy in Congress hinged upon the provision now found in Section 5 of the Radio Act of 1927, as follows:

> "No station license shall be granted by the Commission or the Secretary of Commerce until the applicant therefor shall have signed a waiver of any claim to the use of *any particular frequency or wave length* or of the ether *as against the regulatory power of the United States* because of the previous use of the same, whether by license or otherwise."

This, it will be noted, is limited to the waiver of the right to a particular frequency as distinguished from the general waiver referred to in the joint resolution of December 8, 1926.

Senator Dill, who was in charge of the conference report in the Senate (Congressional Record, Vol. 68, p. 2588), was asked with respect to this provision (*id.* pp. 2869, 2870):

> "MR. HOWELL. Mr. President, I would like to ask why the words 'regulatory power of Congress' were inserted there. There are two theories respecting the authority of the Government in connection with the use of the ether. One is that the ether belongs to the people of the country, and that it is not to be acquired by anyone. The other theory is that the right to use the ether is a vested right when acquired, and then the Government merely has the right to regulate the use thereof.
>
> "This language indicates that this latter theory is adopted in this radio bill. It was not the theory when the bill passed the Senate.
>
> "MR. DILL. In reply to the Senator's question, I may say that the temporary resolution passed in the closing days of the last session provided that the waiver should be as against the United States instead of as against the regulatory powers of the United States.
>
> "When those waivers were asked for we found that attorneys for the various applicants insisted that that

waiver provision was unconstitutional because it was so broad that it required, in the waiving of all rights as against the United States, the waiving even of the right of due process of law in the taking of their apparatus. They believed that it would require them to waive rights that they might have as against the other users of radio apparatus and insisted that the only power the Congress had over radio was the power to regulate interstate commerce, and that it got its power from the commerce clause alone.

"The Government does not own the frequencies, as we call them, or the use of frequencies. It only possesses the right to regulate the apparatus, and that right is obtained from the provision of the Constitution which gives Congress the power to regulate interstate commerce.

"The conferees thought that it was better to have a waiver that was sufficiently clear in its terms to shut off any claim as against the power of the United States to control stations, and have that waiver constitutional, than to hold to a waiver of doubtful constitutionality, which would probably be overturned by the courts, and we would have no waiver whatever in existence.

"It was for that reason that the conferees agreed on the waiver herein provided."

The proceedings in Congress agree with the clear wording of the Radio Act, which is manifestly a regulatory statute.

Section 1 of the Act prohibited the use or operation of any apparatus for radio transmission in interstate or foreign commerce without a license.

Section 2 of the Act divided the United States into five zones.

Section 9 of the Act provided for the issuance of licenses and, as passed and before its amendment by Act of Congress of March 28, 1928, provided as follows, 44 Stat., Vol. 2, p. 1166:

"The licensing authority, if public convenience, interest, or necessity will be served thereby, subject to the limitations of this Act, shall grant to any applicant therefor a station license provided for by this Act.

"In considering applications for licenses and renewals of licenses, when and in so far as there is a demand for the same, the licensing authority shall make such a distribution of licenses, bands of frequency of wave lengths, periods of time for operation, and of power among the different States and communities as to give fair, efficient, and equitable radio service to each of the same."

The provision of this Act authorizing the Commission to issue licenses in accordance with the principles of necessity and convenience unembarrassed by restrictive provisions was continued in force only for one year. By Act of Congress on March 28, 1928, 45 Stat. 373, the second paragraph of Section 9 of the Radio Act of 1927 above quoted was amended to read as follows:

"It is hereby declared that the people of all the zones established by section 2 of this Act are entitled to equality of radio broadcasting service, both of transmission and of reception, and in order to provide said equality the licensing authority shall *as nearly as possible* make and maintain an equal allocation of broadcasting licenses, of bands of frequency or wave lengths, of periods of time for operation, and of station power, to each of said zones when and in so far as there are applications therefor; and shall make a fair and equitable allocation of licenses, wave lengths, time for operation, and station power to each of the States, the District of Columbia, the Territories and possessions of the United States within each zone, according to population. The licensing authority shall carry into effect the equality of broadcasting service hereinbefore directed, whenever necessary or proper, by granting or refusing licenses or renewals of licenses, by changing periods of time for operation, and by increasing or decreasing station power, when applications are made for licenses or renewals of licenses: *Provided,* That if and when there is a lack of applications from any zone for the proportionate share of licenses, wave lengths, time of operation, or station power to which such zone is entitled, the licensing authority may issue licenses for the balance of the proportion not applied for from any zone, to applicants from other zones for a temporary period of ninety days each, and

> shall specifically designate that said apportionment is only for said temporary period. Allocations shall be charged to the State, District, Territory, or possession wherein the studio of the station is located and not where the transmitter is located."

This amended act made it mandatory upon the Commission "as nearly as possible" not only to provide listeners in all parts of the United States with equal radio service but also to allocate transmitting stations equally among the zones and in accordance with population. It does not state, and it could not have been intended by Congress, that the Commission should destroy the property of the stations which had previously been constructed.

In reporting the bill to the House, proposing the equal allocation of each of the five zones of broadcasting licenses, Mr. White, as Chairman of the House Committee on Merchant Marine and Fisheries, said (Congressional Record, House Report No. 800):

> "The equality here sought is not an exact mathematical division. That may be physically impossible. The language does not contemplate the withdrawal of station licenses, of power and wave lengths from others, and an impounding thereof in the absence of application from the third or other zones therefor. It does not suggest that the requirement of the law of a showing of public interest, convenience or necessity as the basis for the grant of a license, or that other provisions of the law, are to be waived."

5. *The Radio Act gives only to the President the power to close stations, and then only upon just compensation.*

The Radio Act of 1927 grants to the Commission only the power to regulate stations (Sec. 4), not to close them. The only power to close stations is given to the President, in case of war or other national emergency, and then, only "upon just compensation to the owners" (Sec. 6 and 7).

The Radio Act, when read as a whole, does not support the Commission's contention that Congress intended to give

it power to close stations without just compensation. When Sections 4, 6 and 7 are read together, it is entirely clear that Congress gave to the Commission only the power to regulate, and that the power to close was given only to the President, and only in cases of national emergencies and only "upon just compensation".

In cases of national emergency, the police power of the United States may properly be exercised to take private property for public use, including the closing of broadcasting stations, wholly or partially. Even if investments of millions of dollars have been made, even if the businesses originated, developed and carried on are extremely valuable, Congress may still authorize their destruction, under certain *extraordinary* conditions, and *upon* just compensation.

By the Radio Act, Congress gave power to the President to close stations, in national emergencies, upon paying just compensation. No power was given to the Radio Commission to close stations, even upon just compensation.

If the Commission had the power to close stations (without a hearing and without an appeal), a specific grant to the President of such power in national emergencies and upon just compensation would be meaningless.

Congress did not intend to authorize the Radio Commission to destroy the property of great stations like WGY, in order to bring about an interference-free country with a mathematical equality of broadcasting licenses among zones. And, if this were the purpose of Congress, it cannot be constitutionally accomplished without providing just compensation for the property rights taken.

Conclusion.

1. This Court does not have jurisdiction to review the action of the Court of Appeals in deciding that the WGY license should be renewed, because such action was administrative, and not judicial.

2. The action of the Court of Appeals was correct, because the closing down of WGY during the evening hours would not serve public interest, convenience or necessity and, moreover, would destroy the property rights in WGY.

Respectfully submitted,

CHARLES NEAVE,
STEPHEN H. PHILBIN,
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Counsel for General Electric Company.

December, 1929.

FILE COPY

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CHARLES ELMORE

No. 122.

IN THE

Supreme Court of the United States

OCTOBER TERM, 1929.

FEDERAL RADIO COMMISSION, *Petitioner*,

v.

GENERAL ELECTRIC COMPANY and PEOPLE OF THE STATE OF NEW YORK, *Respondents*.

On Writ of Certiorari to the Court of Appeals of the District of Columbia.

BRIEF FOR THE PEOPLE OF THE STATE OF NEW YORK.

HAMILTON WARD,
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List of Cases Cited.

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BRIEF FOR THE PEOPLE OF THE STATE OF NEW YORK.

Statement.

No formal statement of facts, additional to that made in the brief for the petitioner and the brief for General Electric Company, appears to be necessary.

Summary of Argument.

Argument will be made under four point headings, as follows:

I. The Court lacks jurisdiction of the present proceedings.

II. The State of New York is a party in interest, entitled to appeal.

III. The limited license issued to Station WGY at Schenectady, N. Y., would not give the broadcasting service which public convenience, interest or necessity requires.

IV. The limited license issued to Station WGY would not carry into effect the equality of radio broadcasting service which the people of the State of New York and the First Zone are entitled to under the provisions of the Federal Radio Act.

POINT I.

The Court lacks jurisdiction of the present proceedings.

Under this point we rely upon the argument addressed to the same topic in the brief of General Electric Company.

Relative to the matter of costs, said on page 42 of petitioner's brief to have been awarded by the Court of Appeals in favor of the State and against the Commission, we have no knowledge of them (except R. 393), little interest in them, and do not see how that award, particularly if it be wrong, as petitioner says it is, can establish the judicial character of the function of the Court of Appeals, as suggested at page 8 of petitioner's brief, and thus affect the jurisdiction of this Court.

POINT II.

The State of New York is a party in interest, entitled to appeal.

1. *If the Act means anything else, then its phrasing is neither clear nor usual.*

Section 5 of the Radio Act of 1927 (44-2 Stat. 1165; petitioner's brief, 120) provides as follows:

> "Any person, firm, company or corporation, any State or political division thereof aggrieved or whose interests are adversely affected by any decision, determination, or regulation of the Secretary of Commerce may appeal therefrom to the commission by filing with the Secretary of Commerce notice of such appeal within thirty days after such decision or determination or promulgation of such regulation. All papers, documents and other records pertaining to such application on file with the Secretary shall thereupon be transferred by him to the commission. The commission shall hear such appeal *de novo* under such rules and regulations as it may determine.
>
> Decisions by the commission as to matters so appealed and as to all other matters over which it has jurisdiction shall be final, subject to the right of appeal herein given."

The only "right of appeal herein given", is that given by §16:

> "Any applicant for a construction permit, for a station license, or for the renewal or modification of an existing station license whose application is refused by the licensing authority shall have the right to appeal from said decision to the Court of Appeals of the District of Columbia; and any licensee whose license is revoked by the commission shall have the right to appeal from such decision of revocation to said Court of Appeals of the District of Columbia or to the

district court of the United States in which the apparatus licensed is operated * * *"

Does the provision in §5, that decisions of the Commission, in all the cases and affecting all the possible parties enumerated:

"shall be final, *subject to* the right of appeal herein given"

mean the same as though Congress had said that the decisions of the Commission, in all those cases, and affecting all those parties:

"shall be final, *except as* the right of appeal is herein given" [in two classes of cases, and to certain parties, only].

Certainly, if the latter phrasing correctly presents the meaning of the statute, then the phrasing actually used, is neither clear nor usual. The phrase "subject to", usually is employed to signify a general subordination to some incident. Where the incident is exceptional, it is appropriately introduced by the phrase, "except as".*

---

* Section 10 of the Grain Futures Act (44-1 Stat. 89) provides as follows: "In proceedings under sections 8 and 9 of this chapter the judgment and decree of the court shall be final, except that the same shall be subject to review by the Supreme Court upon certiorari, as provided in section 347 of Title 28, Judicial Code and Judiciary." Almost identical provisions are found in the Revenue Act of 1926, sec. 1226 (44-1 Stat. 2019); the Federal Trade Commission Act, sec. 45 (357); the Customs Duties Law, sec. 176 (579); the Monopolies Act, sec. 21 (355); and the Packers and Stockyards Act, sec. 194-h (103). See also, for somewhat similar provisions: Trade-Marks Law, sec. 98 (365); and Copyrights Act, sec. 28 (454).
Section 76 of the Grain Futures Act (44-1 Stat. 92) provides that certain shipments are "subject to the right of either party to the transaction to refer any dispute as to the grade of the grain to the Secretary of Agriculture," etc. The phrase, "subject to review", is used in sections 288-c, 309, 347-c, 349, 350, 463-a, and 463-b of the present Judicial Code. Finance Law, sec. 806 (44-1 Stat. 1030) makes certain authorizations, "subject to the approval of the President." Transportation Law, sec. 17-4 (1466) makes certain orders, "subject to rehearing", as provided in a specific section.
Section 176 of the Customs Duties Law (44-1 Stat. 579) provides as follows, relative to findings of the Tariff Commission: "Such findings, if supported by evidence, shall be conclusive, except that a rehearing may be granted by the commission, and except that * * * an appeal may be taken from such findings upon a question or questions of law only to the United States Court of Customs Appeals by the importer or consignee of such articles." See also, sec. 399 of same law (44-1 Stat. 595). The word, "unless", is frequently used to introduce an exceptional incident; see Customs Duties Law, sec. 381 (44-1 Stat. 593); also sec. 402 (596); Revenue Act of 1924, sec. 1217 (847); Judicial Code, sec. 466. The phrase, "provided, however", is sometimes used in a similar sense; see Judicial Code, sec. 308.

2. *The Act conceives of a State as a party interested in radio licensing.*

The reasons which led up to the Act, being recalled, it is clear that the Act is principally concerned to safeguard the interests of *listeners*. The audience to radio broadcasting, unseen, impossible to identify, but all-important, is a party always to be considered, and well to be represented, upon every hearing upon broadcasting licenses. The appropriate State is the only guardian *ad litem* that can readily be identified with that audience; under the peculiar necessities of the case, the State is the local spokesman and representative. If participation by a State in such litigation is extraordinary, it is a natural incident to other extraordinary features of radio and its regulation.

By §2 of the Act, the United States is divided into five zones, and the States constituting each zone are named. §9, as enacted in 1927, provided as follows:

> "The licensing authority, if public convenience, interest, or necessity will be served thereby, subject to the limitations of this Act, shall grant to any applicant therefor a station license provided for by this Act.
>
> "In considering applications for licenses and renewals of licenses, when and in so far as there is a demand for the same, the licensing authority shall make such a distribution of licenses, bands of frequency of wave lengths, periods of time for operation, and of power among the different States and communities as to give fair, efficient, and equitable radio service to each of the same."

Different language, also recognizing certain rights of the States, appeared in the bills originally passed by the House and Senate. These bills differed in certain other respects, leading to the conference committee and its re-

port which became the Act, but each bill contained certain language following after that now found in §4, subsection (d), making such grant of power to the licensing authority read as follows:

> "Determine the location of classes of stations or individual stations (with due consideration of the right of each State to have allocated to it, or to some person, firm, company or corporation within it, the use of a wave length for at least one broadcasting station located or to be located in such State, whenever application may be made therefor) and the kind of apparatus to be used, with respect to its external effects."

After the conference report, there was much debate as to whether, in view of the identical language upon that subject in the two bills originally passed, the conferees were empowered to change the language at all, and also whether the change made was material (68 Cong. Rec. 2557, 2563, 2568-2569, 2575-2576, 3258-3262, 3329-3335).

In the subsequent Congress it was asserted, as a reason for amending the second paragraph of §9, that some members of the Federal Radio Commission were interpreting the provision otherwise than Congress had intended, and without due regard for the interests of individual States (69 Cong. Rec. 4488-4489, 4562-4563, 4608-4609, 5116-5117). The proposed amendment was adopted (45 Stat. 373; petitioner's brief, 144) and in part provides as follows:

> "It is hereby declared that the people of all the zones established by §2 of this Act are entitled to equality of radio broadcasting service, both of transmission and of reception, and in order to provide such equality the licensing authority shall as nearly as possible make and maintain an equal allocation of broadcasting licenses, of bands of frequency or wave lengths, of periods of time for operation, and of station power,

to each of said zones when and in so far as there are applications therefor; and shall make a fair and equitable allocation of licenses, wave lengths, time for operation, and station power to each of the States, the District of Columbia, the Territories and possessions of the United States within each zone, according to population. * * * Allocations shall be charged to the State, District, Territory, or possession wherein the studio of the station is located and not where the transmitter is located."

It thus appears, from the language of the Act and from its history, that an individual State is regarded as having certain peculiar rights relative to the allocation of licenses for radio broadcasting, and is given power to appear and to appeal, to protect those rights.

3. *Those rights do not wait until the Secretary of Commerce becomes the licensing authority.*

It may be suggested that the only express authorization for a State to take any appeal is found in §5, which is chiefly concerned with a condition which has never arisen —the practice which shall obtain when the licensing power, in the first instance, has devolved upon the Secretary of Commerce, and the Commission acts upon it in an appellate capacity. Under the Act of 1927 that change of function was to have taken place a year after the first meeting of the Commission; it has been three times deferred, most recently for an indefinite period.

That some provisions of §5 were immediately effective, is sufficiently proven by its last paragraph, wherein is the requirement that a "waiver" be exacted from each applicant. Much significance has been attached, in the de-

bates in Congress and in debates since, to that provision, and to its history. Whatever it means, everybody agrees it was intended to be immediately effective, because it is expressly made applicable, not only to granting of licenses by the Secretary (after he shall become the licensing authority) but also to granting of licenses by the Commission (which is the licensing authority for the first year and its extensions).

A similar inference is readily to be drawn from the preceding paragraph of §5, which is the one now most directly involved:

> "Decisions by the commission as to matters so appealed [*i. e.*, from the Secretary, sometimes by a State as appellant] *and as to all other matters over which it has jurisdiction* shall be final, subject to the right of appeal herein given."*

We believe that if Congress had intended the italicized language to mean, "and as to all other matters over which it shall have jurisdiction after the Secretary shall become the licensing authority", it would have said so.

The reports and debates in Congress are more concerned with other and controversial features of the legislation; they are somewhat scant in their references to the appeal provisions; and in view of the general suspicion directed toward the licensing authority, this scantiness of reference is an indication that the appeal provisions were broad, and not unusual. What can be found suggests no intent to make the licensing authority less subject to court review, for the first year, than thereafter. On the contrary, such reference as can be found, like the impressive absence of reference, suggests an intent to make the licensing authority, at all times and in all matters, subject to a very complete power of review.

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* Italics and bracketed matter inserted.

If there was anything unusual, or exceptional, depending upon particular parties or a particular time, in the provisions for court review, it escaped any notice in the statement which accompanied the conference report to the House, and its references to §§5 and 16 of the bill (69 Cong. Rec. 2563; the latter reference is quoted in this brief, note on page 10).

The commentary made by Frank Scott, Esq. (then Congressman from Michigan and Chairman of the House committee having the legislation in charge) when presenting the conference report on the floor of the House, indicates his view that no great difference in the scope of review was to result after the first year (69 Cong. Rec. 2565):

> "The Commission, under the provisions of the House bill, was an appellate division; under the compromise bill for the first year they are not an appellate division; they are a commission of original jurisdiction, but thereafter they occupy very largely the position provided in the original House bill, as an appellate body. Now, it is inconceivable that with several thousand stations throughout the United States there will not after the first year be appeals from the decisions of the Secretary of Commerce and that there will not during the first year be appeals from the decisions of the Commission itself, and therefore the House conferees and Senate conferees were unanimous in the thought that we ought to afford to the citizens of the country every opportunity to have a full hearing of their controversial matters."

4. *A narrow interpretation of the appeal provisions produces unreasonable results.*

In the present case the State is in sympathy with the unsuccessful application for license. Whether the State be allowed to participate, in the present case, is not important in itself.

In the present case, so far as appears, no part of the great radio public, and no licensee, has been adversely affected by the applicant's success before the Court of Appeals. So far as public interest has been manifested, it is all with the applicant, and there appears to be no adverse private interest.

Few cases will present this situation.

Congress realized that, as is shown by its broad reference, in §5 of the Act, to various parties who might be "aggrieved or whose interests are adversely affected." All these were specifically given a right of appeal, at least from the Secretary to the Commission.

Section 16 was written in fulfillment of a conference agreement that a distinction be made between the two principal classes of appeals. Those from denials of applications were to be brought on for hearing in Washington, presumably for the greater convenience of the Commission. But in appeals from revocations, each appellant was intended to have an option; if he chose he might bring his appeal before the District Court of his locality instead of coming to Washington. We believe emphasis was on the class of appeal, and the references to particular appellants were not intended to exclude all other parties from appellate litigations.*

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* In sec. 8 of the bill passed by the House was the following provision: "Any person interested in or aggrieved by any decision of the commission with respect to the granting or refusal of a permit or license or the revocation of a license, may appeal therefrom to the Court of Appeals of the District of Columbia."

69 Cong. Rec. 2563, appears the following, being part of a formal statement submitted to the House with the conference report: "Section 16 provides for appeals and is a compromise between the views of the two Houses. By the terms of the House bill all appeals were to the Court of Appeals of the District of Columbia. Under this provision all appeals except as to revocation of licenses go to the Court of Appeals of the District of Columbia. Appeals upon questions of revocation may be taken either to the Court of Appeals of the District of Columbia or to the District Court of the United States in the district in which the station and apparatus covered by the license is located."

It is true that the licensing authority will always be a party respondent, and if the proceedings before the court were limited to a review of its determinations, upon the original records, it might carry on satisfactorily as a universal and sole party respondent. Such is not the case. If the already overburdened Commission is to have exclusive responsibility for making up and defending new records before the Court of Appeals, in cases involving the interests of various communities in the forty-eight States, and necessarily affecting other licensees than the appellants, it will have an impossible task of representation. It is more reasonable, and we believe was intended, that the other parties in interest, who are explicity given permission to appear before the Commission and make up one record, should participate in the ensuing litigation involving a new record, perhaps greatly amplified.

Even more serious is the result, if the references to particular appellants in §16 are taken as exclusive, and a limitation upon all that is said in §5. Such an interpretation means that in many cases a party, concededly having an interest in the matter before the Commission, and obviously prejudiced by its determination, will be denied any appeal to the courts. Appellate review is given to one party, but not to the other. If the Commission denies an application, or revokes a license, the applicant or licensee is given an appeal. But if the Commission grants the application, or declines to revoke the license, which actions will usually affect the rights of other licensees, and of communities, and equality of service between States, then (it is said) there is no appeal. The unfair tendency of this proposition is aggravated by the claim of the Commission, made in the present case, that a *grant* of a *limited* license, upon an application for an *unlimited* license, is not a *denial*, and hence not appealable by anybody.

We believe that Congress intended no such result.

We submit that the unreasonable consequences which will flow from a narrow interpretation should be avoided. To do that, it is only necessary to interpret, in its usual sense, the language in §5 of the Act:

> "Decisions by the Commission as to matters so appealed and as to all other matters over which it has jurisdiction shall be final, subject to the right of appeal herein given."

POINT III.

The limited license issued to Station WGY at Schenectady, N. Y., would not give the broadcasting service which public convenience, interest or necessity requires.

The people of New York State endeavored to be heard before the Radio Commission, but were not afforded a hearing. We understand it to be the Commission's position that an application by General Electric Company for some specific frequency assigned to the First Zone was a prerequisite to the granting of any hearing (R. 179-180).

The Commission, without affording any hearing, first decided for itself how licenses should be allocated, to the zones, States, and stations; and left WGY either to have a limited license, or to be an applicant in hostility to some neighboring full time licensee. Such a regulation might be proper after an original allocation based upon hearings and evidence, but we think that there was no necessity for making the original allocation in a manner having at least the appearance of arbitrariness.

It is the due process of childhood, when instituting a game of pussy-wants-a-corner, to determine, by counting out or recognizing priorities, who shall be exempted, at the first, from seeking another's post. With complete respect (and some misgivings upon the score of dignity) we suggest that the procedure prescribed by the Commission has similarities to the childhood game, but the original allocation was done upon the fiat of the Commission. We *doubt* the fairness of the procedure, to the extent suggested; but what we urge (it is sufficient for our interests) is that the present record establishes the right of WGY and the community served by it to have been placed in the favored class, with only the burden of defensive litigation.

The application made by the State to the Commission (R. 172-178) declares its reasons, and the interest of its people in this proceeding, as follows:

"Under date of September 11, 1928, the Commission has designated WGY as a limited or part time station, and has made it a daytime station only, thus cutting off from our citizens the real benefits of broadcasting service, those of the evening hours when people are in their homes.

You have given these evening hours to Montana and other states in the far west. Having done so, the Commission states that it will make no reallocation of wave lengths to the different zones; that WGY cannot ask to have this situation remedied, but must seek to take away from other stations in the first zone the assignments which the Commission has given to those stations (Letter of Louis G. Caldwell, representing the Commission, to WGY, October 18, 1928). In other words, you have ruled that WGY cannot give evening broadcasting service unless some other station in New York is compelled to stop. What WGY

formerly had has gone to the citizens of other less populated states, and all of central, northern and eastern New York and large portions of the States of Vermont, New Hampshire and Massachusetts must after November 11th obtain their evening service from New York City or Boston, or not at all. We wonder if the Commission fully understood the result of this assignment, and that stations in New York City and Boston *as a fact* cannot be heard with any quality of clearness throughout most of this vast territory with its great number of inhabitants having been served and accustomed for years to be served with evening broadcasting from WGY. It is a matter of degree, but of such a degree as to have further consideration in the interests of public necessity and convenience. The communities of Albany, Troy, Schenectady, Amsterdam, Utica and many other cities and all of the villages and country districts of the north and east and to the Canadian border are affected.

That the General Electric Company has another broadcasting station in California which it may operate during the evening hours (the attitude apparently taken by the Commission) is no answer to our public and indicates a distribution of wave lengths and station hour assignments from the standpoint of the operating stations and not on the ground of public convenience and necessity.

The section of New York we are interested in on this application had before the enactment of the Radio Act of 1927 at least a priority in service, and has an equal if not a prior right to continued evening service under the terms of the Act of 1927. Shutting off that service *entirely* for the benefit of new areas is, we believe, inequitable and not contemplated by the Federal Radio Act.

All determinations of the Commission, whether it be the allocation of wave lengths to the different zones or station assignments of frequencies and operating time are open for hearing before the Commission within the purview of the statute. The more far-reaching orders must be open to correction as well as the lesser orders, if Congress meant anything by the right to a hearing.

WGY of all the 1000 licensed broadcasting stations was fourth in point of time, and has operated in New York State on the wave length of 790 kilocycles ever since May, 1923.

Without in this application presenting all the facts which may develop upon a hearing, if one is accorded, it may incidentally be said that New York State has the greatest system of hospitals in the Union, many of which are located in the area served by WGY. Here, too, are federal hospitals. Appended to this application are pleas for WGY service from the federal soldiers at the Veterans' Disabled Hospital at Tupper Lake, N. Y., many of whom are confined to their beds twenty-four hours of the day. They show the public necessity of evening service in the interest of the health of these men, over 350 in number. It will be taken away from them on Armistice Day, November 11th.

The State Hospital for Consumptives at Raybrook, near Saranac and Lake Placid, has 300 patients, each room of the hospital being equipped with radio receiving apparatus used constantly for the patients with programs from WGY only.

Governmental activity of the State of New York at Albany is affected as well. The State Department of Health

has heretofore protested to the Commission, to the end that it may maintain its public health talk service over WGY. The Department has been using this broadcasting service through WGY since March, 1922. Talks are given weekly and more than 325 of them have taken place. It is the most important health publicity in the State of New York and is carried on as state work in the interests of adult and child health protection and having its large influence in the control of epidemic diseases.

The Department of Agriculture and Markets has used WGY since March 15, 1922, for its daily Market Report, and since 1925 for its weekly Crop and Market Summary. Crop Estimates also are sent out by the State, and WGY maintains an agricultural program through its Farm Forum, all for the benefit of our rural section served only by WGY.

New York State wants for its citizens the continued full time service of WGY or some other station equally as good. As matters now stand, about three millions of our people will be deprived of all evening service over WGY after November 11, 1928, and this for the education and entertainment of other sections of the country which years later have been introduced to broadcasting service.

We fully appreciate the great difficulties of the Commission in its administration of the Federal Radio Act. This application is made in no jealous spirit, but merely to request the continuance of the time-honored broadcasting service heretofore furnished three-fourths of the Empire State. Later comers should give way before we are asked to do so."

POINT IV.

The limited license issued to Station WGY would not carry into effect the equality of radio broadcasting service which the People of the State of New York and the first zone are entitled to under the provisions of the Federal Radio Act.

While the zones were mentioned and defined in the Radio Act of 1927, little emphasis was placed upon them. Bands of frequency or wave lengths were to be assigned by the Commission to the various classes of stations, and this distribution was to be so made:

> "* * * among the different states and communities as to give fair, efficient and equitable radio service to each of the same."

The Davis Amendment of 1928 laid an increased emphasis upon the zones, and the states. It was a mandate, of a sort, to the Commission.

By General Order No. 40 of August 30, 1928 (R. 100-103) the Commission allocated bands of frequency, eight each to all of the five zones. That of course was equality in number of bands. But does the Radio Act require exactly that? The statute says the Commission shall "*as nearly as possible*" make and maintain an equal allocation. The Commission was to have some administrative work and duty to secure and maintain "equality of radio broadcasting service" in the public interest, and it could have given any zone a lesser number of bands if the public interest demanded it; otherwise what was the use of the Federal Radio Commission. As a matter of fact, and recently made a matter of official report in Congress*, the

* On December 12, 1929, in compliance with the Sackett resolution (S. Res. 166) the Commission submitted to the Senate a statistical analysis of distribution of facilities among the five zones. The First Zone was shown as having approximately 27 per cent of the aggregate power used by stations over the entire country. This is an excess, but power has not been suggested by anyone as an issue in the case of WGY. In all other respects, the First Zone is under its quota. In number of licenses, it has 18.768 per cent. In frequency distribution, it has 17.618 per cent. In percentage of time of night operations, it has 15.552 per cent.

Commission has not pursued any such policy of undeviating mathematical equality between the zones as is the premise of General Order number 40 and the Commission's prescribed procedure for license applications. This being so, we cannot understand the attitude manifested by the Commission in regard to the present case, that having once made its allocation of bands to the different zones, such allocation is past question or attack by the public, and no application will be heard that might require any disturbance of the allocation between zones.

Passing that and attending to the equitable allocation of wave lengths once set apart to a zone, we arrive at the question why the metropolitan centers should have all the evening broadcasting service to the detriment of three-fourths of the rest of New York State and the large unserved areas of Vermont, New Hampshire and Massachusetts. Assigning wave lengths and station licenses, "within each zone, according to population", cannot mean that the large cities shall have all the service simply because the greater number of people are there. Some attention must be given, in "a fair and equitable allocation", to the *distribution of population*, and to station location, wave lengths and power to reach that separated population.

The order of the Court of Appeals serves those purposes, and the limited license to WGY which it displaced would not serve those purposes. We respectfully submit that the order should be undisturbed.

Albany, December 27, 1929.

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SUPREME COURT OF THE UNITED STATES.

No. 122.—October Term, 1929.

Federal Radio Commission, Petitioner, *vs.* General Electric Company et al.	On Writ of Certiorari to the Court of Appeals of the District of Columbia.

[May 19, 1930.]

Mr. Justice Van Devanter delivered the opinion of the Court.

A review is sought here of a decision of the Court of Appeals of the District of Columbia given on an appeal from an order of the Radio Commission.

The General Electric Company owned and was operating a broadcasting station at Schenectady, New York, when the Radio Act of 1927 went into effect. Thereafter it sought and obtained from the commission successive licenses under that act for the further operation of the station. The last license was issued November 1, 1927, for that calendar month and was prolonged until November 11, 1928, by successive short extensions.

January 14, 1928, the company made application for a renewal of that license. The application was not acted upon until October 12, 1928, and then the commission ordered that a license be not issued with terms like those of the existing license, but that one be issued with other terms much less advantageous to the company and the communities which it was serving—the chief change being a pronounced reduction in the admissible hours of service. The company regarded this order as a refusal of its application for a renewal of the existing license and prosecuted an appeal, under section 16 of the act of 1927, to the Court of Appeals of the District of Columbia. After a hearing that court found from the record returned by the commission that public convenience, interest and necessity would be served by renewing the existing license without change in its terms, and on that basis held that such a renewal should be granted and that the proceeding should be remanded to the commission with a direction to carry the

court's decision into effect. Costs were assessed against the commission. 31 F. (2d) 630. On the petition of the commission certiorari was then granted by this Court.

Our jurisdiction to review the decision of the Court of Appeals is challenged.

The act of 1927, c. 169, 44 Stat., pt. 2, 1162, was enacted as a regulation of interstate and foreign radio communication; and it is in such activities that the company's broadcasting station is used. The act, as amended in 1928, c. 263, 45 Stat. 373, and 1929, c. 701, 45 Stat. 1559, directs that no broadcasting station be used in such communication except in accordance with the act and under a license granted for the purpose; authorizes the Radio Commission to grant station licenses and renewals thereof, both for periods not exceeding three months, and otherwise gives it wide powers in administering the act; restricts the granting of station licenses and renewals to instances "where public convenience, interest or necessity will be served thereby"; authorizes the commission to determine the question of public convenience, interest or necessity; declares that decisions of the commission in all matters over which it has jurisdiction "shall be final, subject to the right of appeal" therein given; provides (§ 16) that any applicant for a station license or the renewal of such a license, whose application is refused by the commission, may appeal from such decision to the Court of Appeals of the District of Columbia; directs that the grounds of the appeal be stated and the revision be confined to them; requires the commission, where an appeal is taken, to transmit to the court the originals or certified copies of all papers and evidence presented upon the application refused, together with a copy of the commission's decision and a statement of the facts and grounds of the decision; authorizes the court to take additional evidence upon such terms and conditions as it may deem proper; and provides that the court "shall hear, review and determine the appeal upon said record and evidence, and may alter or revise the decision appealed from and enter such judgment as to it may seem just".

We think it plain from this resume of the pertinent parts of the act that the powers confided to the commission respecting the granting and renewal of station licenses are purely administrative and that the provision for appeals to the Court of Appeals does no more than make that court a superior and revising agency in the same field. The court's province under that provision is essentially the same as its province under the legislation which up to a recent date

permitted appeals to it from administrative decisions of the Commissioner of Patents.[1] Indeed, the provision in the act of 1927 is patterned largely after that legislation. And while a few differences are found, there is none that is material here.

Referring to the provisions for patent appeals this Court said in *Butterworth* v. *Hoe*, 112 U. S. 50, 60, that the function of the court thereunder was not that of exercising ordinary jurisdiction at law or in equity, but of taking a step in the statutory proceeding under the patent laws in aid of the Patent Office. And in *Postum Cereal Company* v. *California Fig Nut Company*, 272 U. S. 693, 698, which related to a provision for a like appeal in a trade-mark proceeding, this Court held: "The decision of the Court of Appeals under § 9 of the act of 1905[2] is not a judicial judgment. It is a mere administrative decision. It is merely an instruction to the Commissioner of Patents by a court which is made part of the machinery of the Patent Office for administrative purposes". Another case in point is *Keller* v. *Potomac Electric Power Co.*, 261 U. S. 428, 442-444, which involved a statutory proceeding in the courts of the District of Columbia to revise an order of a commission fixing the valuation of the property of a public utility for future rate-making purposes. There this Court held that the function assigned to the courts of the District in the statutory proceeding was not judicial in the sense of the Constitution, but was legislative and advisory, because it was that of instructing and aiding the commission in the exertion of power which was essentially legislative.

In the cases just cited, as also in others, it is recognized that the courts of the District of Columbia are not created under the judiciary article of the Constitution but are legislative courts, and therefore that Congress may invest them with jurisdiction of appeals and proceedings such as have been just described.

But this Court cannot be invested with jurisdiction of that character, whether for purposes of review or otherwise. It was brought into being by the judiciary article of the Constitution, is invested with judicial power only and can have no jurisdiction other than of cases and controversies falling within the classes enumerated in

[1]Sections 59-62, Title U. S. C. The jurisdiction vested in the Court of Appeals of the District of Columbia by this legislation was transferred to the Court of Customs and Patent Appeals by the Act of March 2, 1929, c. 488, 45 Stat. 1475.

[2]Now § 89, Title 15, U. S. C. This jurisdiction also was transferred to the Court of Customs and Patent Appeals by the act cited in note 1.

that article. It cannot give decisions which are merely advisory; nor can it exercise or participate in the exercise of functions which are essentially legislative or administrative. *Keller* v. *Potomac Electric Power Co., supra,* p. 444, and cases cited; *Postum Cereal Co.* v. *California Fig Nut Company, supra,* pp. 700-701; *Liberty Warehouse Co.* v. *Grannis,* 273 U. S. 70, 74; *Willing* v. *Chicago Auditorium Association,* 277 U. S. 274, 289; *Ex parte Bakelite Corporation,* 279 U. S. 438, 449.

The proceeding on the appeal, from the commission's action is quite unlike the proceeding, under sections 1001(a)-1004(b) of the Revenue Act of 1926, c. 27, 44 Stat., pt. 2, 109, on a petition for the review of a decision of the Board of Tax Appeals; for, as this Court heretofore has pointed out, such a petition (a) brings before the reviewing court the United States or its representative on the one hand and the interested taxpayer on the other, (b) presents for consideration either the right of the United States to the payment of a tax claimed to be due from the taxpayer or his right to have refunded to him money which he has paid to satisfy a tax claimed to have been erroneously charged against him, and (c) calls for a judicial and binding determination of the matter so presented—all of which makes the proceeding a case or controversy within the scope of the judicial power as defined in the judiciary article. *Old Colony Trust Co.* v. *Commissioner of Internal Revenue,* 279 U. S. 711, 724-727.

And what is said in some of the cases already cited respecting the nature and purpose of suits to enforce or set aside orders of the Interstate Commerce Commission, as also orders of the Federal Trade Commission, makes it apparent that the jurisdiction exercised in those suits is not administrative, but strictly judicial, and therefore quite unlike the jurisdiction exercised on appeals from the Radio Commission.

Of course the action of the Court of Appeals in assessing the costs against the commission did not alter the nature of the proceeding.

Our conclusion is that the proceeding in that court was not a case or controversy in the sense of the judiciary article, but was an administrative proceeding, and therefore that the decision therein is not reviewable by this Court.

Writ of Certiorari Dismissed.

Mr. Chief Justice HUGHES did not participate in the consideration or decision of this case.